Presidential Address
ON
THE PROGRESS OF MEDICINE IN THE NINETEENTH CENTURY.

Delivered at the Inaugural Meeting of the 127th Session of the Medical Society of London on Oct. 9th, 1899,

BY FREDERICK T. ROBERTS, M.D., F.R.C.P. LOND.,

PROFESSOR OF MEDICINE, UNIVERSITY COLLEGE; PHYSICIAN AND PROFESSOR OF CLINICAL MEDICINE, UNIVERSITY COLLEGE HOSPITAL.

GENTLEMEN,—I imagine that it would be almost impossible for anyone to whose lot it falls at the present time to give an address on an occasion such as this to resist the temptation of taking as his text, from some aspect or other, the century now so rapidly drawing to its close. The remarkable developments, changes, and revolutions which it has witnessed, the wonderful discoveries and inventions to which it has given birth, with their bearing and influence upon the numerous problems of practical life, upon the advance of so-called civilisation, and upon the progress and well-being of humanity, afford boundless scope for any amount of "talk" on all kinds of topics. "Medicine"—using the word in its comprehensive sense, as including all the branches of the "healing art"—opens up an inexhaustible field from this point of view, and several addresses have been recently delivered bearing upon the subject. At the inaugural meeting of the last session of the Medical Society of London in the nineteenth century it would be manifestly absurd and inhuman to expect the President not to take advantage of such an opportunity for selecting a topic ready to hand, in spite of previous utterances. At any rate, I cannot resist the temptation, and must ask you to bear with me while I endeavour to indicate, on very general lines, what seem to me to be the more striking changes which have affected our profession in this country during the present century and the main results in the direction of progress which have been achieved.

In the abstract a hundred years seems a very long time, and under circumstances of ordinary humdrum existence no doubt they pass slowly enough; while only a very small proportion of the human race have up to the present era attained this degree of longevity, though we are promised wonderful improvements in this respect in the future. The earlier portion of the century must, I imagine, have been pretty dull and wearisome to the mass of people; but I have a strong impression that its latter half at any rate has flown by with astonishing rapidity in the experience of a considerable number of persons who have been personally engaged and taken an active part in the march of events, or who have even watched their progress with more or less lively interest. To this category have belonged a very large and constantly increasing proportion of the members of the medical profession, and there are some still in our midst who have witnessed almost from the first the more important changes which have marked its history. I fancy that with most of them the years have sped by only too quickly, and certainly such has been my own experience. I speak somewhat feelingly, for, if you will excuse a personal reference, I am forcibly reminded to-night of the disquieting fact that I have been associated with the profession for very close on half the century, and it seems but as yesterday that I started on my medical career as an apprentice in a respectable, quiet, sleepy, out-of-the-world town in South Wales, little dreaming that I should ever dare to enter upon the fierce conflict of professional life in London, and still less that I should be thought worthy to occupy the proud and honourable position in which, by your generous kindness, I now find myself.

The reminiscence to which I have just referred naturally calls attention to a most important change which has taken place in relation to our profession during this century—namely, the doing away entirely with the apprenticeship system. At the time of which I speak an apprenticeship of five years' duration was an essential part of the curriculum—at least in the case of those preparing for general practice. According to my indentures, still in my possession, I was bound for seven years at the precocious age of nine years, and actually did make a start when 12 years old! To most of you probably this is a mere matter of ancient history, or perhaps some of you have never even heard of a mode of introduction to, and preparation for, the medical profession which in this "very superior" age you might be inclined to regard as an unpleasant reminder of "trade," and as the remnant, not only of an unscientific era, but one sadly deficient in culture and "good form." It would serve no practical purpose to discuss to-day whether apprenticeship was useful or the reverse, for, so far as I can see, it has gone never to return; but I cannot allow the century to close over its grave without a parting word of kindly appreciation. No doubt the absurdly prolonged apprenticeship was a great mistake and a waste of precious time; and even when of moderate length it often involved degrading and menial drudgery or was a mere farce. Sometimes, indeed, it was worse, for it afforded opportunities for "jobbery" of the most offensive type, having been utilised as a means of foisting men into prominent hospital or other appointments to which they had no real claim and for which they might be entirely unfitted. Nevertheless, I firmly believe that this method of initial or preliminary training for the medical profession had decided advantages within rational limits, and served a most useful purpose in its day. Personally I have never regretted that it fell to my lot to have to pass through such an experience; and I acknowledge with gratitude that the practical lessons impressed upon my mind at that time not only helped me as a student but have served me in good stead on many and many an occasion since.

Passing from the negative or destructive to the positive or constructive, I presume I shall be echoing the sentiments of all here present when I affirm that the medical profession has made vast strides in the direction of true progress during the past century, especially its latter half, in spite of what carping and unfriendly critics may say to the contrary. Perhaps there is a tendency sometimes to boast a little too loudly of what has been achieved and to speak or write in somewhat extravagant and needlessly glowing terms of the glories of the past and the brilliant promises of the future. "Change" is by no means always synonymous with "progress"; and we may as well frankly acknowledge at the outset that the changes affecting the profession which have come within our own experience have not invariably been along the line of real and lasting progress. Most of us must be able to call to mind passing events or episodes, wonderful discoveries, epoch-making methods of treatment, and the like, which have had their little day and then sunk into oblivion. Some of these disturbers of the peaceful current of events, indeed, we are only too glad to forget as having for the time brought discredit, or even ridicule, upon our noble calling. On the whole, however, the balance is immensely on the right side, and we may fairly claim that medicine occupies to-day a position of which it has no cause to be ashamed. The advances it has made during this century are not only remarkable in extent and highly beneficial in their results, but are in the main established on a solid and enduring foundation, upon which those who take up the work in the coming century may go on building indefinitely to the incalculable advantage of future generations.

Starting, then, from this general assumption of the undeniable progress of the medical profession, my main object this evening is to endeavour to indicate briefly what, according to my judgment, are its most striking features, and to sum up concisely some of the more important practical results which have been achieved. Before doing so, however, I must call attention for a moment, without entering into any details, to the means or agencies by which these results have been brought about, which will suggest many interesting facts in relation to the history of medicine during this century, and the more obvious changes which have affected the profession. We must not fail to recognise at the outset the influence of the remarkable advance in general education and culture, which has told upon the profession of medicine in common with others, and assures at any rate that those who desire to enter its ranks shall have acquired the rudiments of general knowledge and have had some preparatory training for its special studies, while a fair proportion may now be regarded as "highly educated." Then, whatever may have been the actual state of things previously, the nineteenth century may be credited to all intents and purposes with the establishment of a comprehensive and rational system of compulsory education

and training for all who aim at becoming medical practitioners, and its progressive development, on scientific and practical lines, the latter including that most important branch—"clinical teaching"—in accordance with the requirements of the age. Within recent years, I need scarcely say, this development has been going on by "leaps and bounds," with proportionate prolongation of the period of training. What things are going to end in I have no idea; but I do feel a sort of condolence with, and sympathy for, the "medical student" of the future, or perhaps rather for his unfortunate parents or guardians. Still, my sympathy may be quite misplaced, for not a few modern students do not seem to be at all satisfied with, or to have had anything like enough of, tuition during their curriculum, as evidenced by the frantic eagerness and craving exhibited nowadays for so-called "post-graduate teaching," sometimes even on the most elementary subjects.

A most important change or development which deserves special notice is the adoption of the scientific spirit, if I may so express it, and of scientific methods in relation to the study and teaching of medical subjects, as well as the introduction into the curriculum of allied subjects more strictly scientific, and the promotion and encouragement of their methodical and deeper study. Apart from the acquisition of the scientific knowledge and skill—in physiology, chemistry, and other branches—which to-day is justly regarded as essential for any properly educated and competent medical practitioner, I need scarcely remind you that those who teach these and kindred subjects attach great importance to the preliminary scientific training which their study involves as a means of preparation for the active duties and practical work of the medical profession. That in the main this scientific development has been of immense advantage cannot for a moment be doubted, but, though I know it is rank heresy to suggest such a thing, may it not be just possible that the "preliminary scientific" business at any rate has been worked for all it is worth, unless it be intended as a barrier to keep out some of the horde who still strive to invade our overcrowded profession! The more advanced scientific training now in vogue for special purposes stands on a different footing and undoubtedly deserves every attention. Another factor which has manifestly contributed in an incalculable degree to the progress of medicine has been the separation or unravelling, if I may so speak, of subjects which, though essentially distinct, were formerly, if dealt with at all, included under one term and discussed in a single course of lectures, often short and necessarily incomplete; and the addition of new subjects the outcome of increasing knowledge, either as part of the medical curriculum or as fields for subsequent study. Imagine the time, not so very far distant, when there was no independent instruction in, or separate study of, pathology and morbid anatomy, materia medica and therapeutics, etiology and hygiene, but all were muddled together under "Lectures on Medicine." Taking a comprehensive view of the matter of course the broad division of medical subjects was an unmixed gain and its advantages cannot be over-estimated, but here again things may be carried too far and there is perhaps a tendency nowadays to multiply subjects needlessly. The number which the medical student has to grapple with is certainly sufficiently formidable, and I fancy he would be inclined to cry, "Hold, enough!" But here also comes in the thorny question of "specialism," about which I will only venture to express the opinion that to this comparatively modern development the progress of medicine owes more than can be imagined or expressed in words, and that when carried out legitimately and rationally it has proved, and always will prove, of infinite advantage to the profession and to humanity. It is its abuse which works such serious mischief, and against which we must ever protest.

It may be a matter of controversy how far the founding and development of examinations in the United Kingdom in relation to the medical profession have contributed to its advance, but, while fully recognising the fact that things are even at the present time anything but satisfactory, no one can deny that they have had no small share in promoting the general progress. The history of these examinations both before and during this century would in itself afford ample material for an address, and it is decidedly entertaining. Time was when the mass of general practitioners had no diploma at all, and for long the examinations were absurdly inadequate and often a farce. Steady improvement, however, has taken place, more especially during the last 40 years, and for this more or less credit must be given to the General Medical Council. As things now exist I think we can claim for examinations these advantages: first, most of them are sufficiently comprehensive and searching to guarantee that those who obtain degrees or diplomas or licences to practise are, at any rate, fairly competent for the duties that lie before them; secondly, some of them, either in themselves or by their associated "honours" examinations, stimulate the mental energies and zeal of those who aim at the higher positions in the profession, while at the same time they in a general way determine or regulate, so to speak, the status of those who desire to devote themselves more particularly to one of its main divisions, such as medicine, surgery, gynæcology, or public health; and thirdly, it cannot be doubted for a moment that the progressive improvement in the examinations has had a material influence in initiating and stimulating advance in medical education and bringing it up to the required standard. Let us hope that in the coming century these two factors working together may raise the medical vocation to that still higher position to which it is entitled and may ensure that no individual can enter its ranks who is not thoroughly trained and qualified and fully competent to engage in its great work, whatever sphere of labour he may select.

Having spoken about medical education and examinations, a word must be said about the institutions which have been concerned with, and responsible for, these important departments. I do not propose to criticise the old corporations and medical schools, but I think it will be generally acknowledged that at one time they were hardly up to the mark, and it was a good thing for the profession when circumstances made them "sit up" a bit. The establishment of additional schools of medicine, each doing its best to bring students up to the required standard, to "keep up with the times," and to provide the means for education and training which modern science demands, has undoubtedly been of conspicuous service by promoting and ensuring a healthy rivalry and competition; but whether, in London at any rate, things are not in danger of being overdone in this direction may be a matter of opinion. And here I may conveniently draw attention to a most significant change affecting the profession which has happened during the nineteenth century, and that is the admission of "lady doctors" into our ranks. They have now a "school" of their own, and it must be cordially acknowledged that they train their students admirably, who often compete most successfully with the male students. It is not for me to say whether or not this change has been a progressive step—time will show; but in the meanwhile they decidedly hold their own, and even those gentlemen who shake their heads ominously can do nothing but accept the situation. Personally I bear the lady practitioners no ill-will, and can testify that many of them are highly gifted, conscientiously devoted to their work, and fully deserving of our respect and esteem. In relation to medical education I must not omit to mention the provincial medical schools, many of which have done excellent work, some, indeed, being to-day so splendidly equipped that they excite the admiration and envy of the metropolitan schools. Here, too, I may refer to the founding of so-called modern universities, which are the growth of this century; and it would not be just if I did not mention specially the London University, which has in the past done so much for medical education and examinations, whatever it may do in the future. Nor, I hope, will it be out of place to express satisfaction that more liberal ideas have at length prevailed in the older English universities, that the barriers of exclusion which restricted admission to these universities until within quite a recent period have been entirely broken down, and that they now open their doors to all comers, while joining heartily in the promotion of medical education and science.

Of all the agencies which have contributed to the advance of medicine none has been more conspicuous or potent than the general recognition of the essential value and far-reaching importance of original investigation and research, in a variety of directions, especially by experimental methods, and the ever-widening application of this principle as new fields of inquiry have opened up. It is impossible to form any adequate estimate of what medical science and art owe to the adoption and progressive working-out of this great principle, which takes nothing for granted but aims at the establishment of knowledge on the basis of facts, while at the same time constantly seeking for fresh discoveries. Beginning on a most limited scale and with very

inadequate instruments or means the system has advanced in an extraordinary degree and we see the outcome in the magnificent and thoroughly equipped laboratories of all kinds which to-day form a recognised and integral part of our scientific institutions, medical schools, and universities. Moreover, while a few years ago this kind of work was carried on only by the few, the spirit of research seems to have taken such firm hold upon the rising generations of the medical profession that the number of original workers in research laboratories and elsewhere is becoming almost embarrassing. And let me here remark that it is not only in laboratories that investigation and research may be carried on. Especially must we never forget to pay due homage to the splendid work achieved by the great clinical observers of this century, who have done so much to advance the science and practice of medicine and surgery. Before leaving this topic, although I hope and believe there can be no difference of opinion on the point amongst those present here this evening, I would ask, where would medicine have been to-day if it had not been for vivisection, by which alone has it been rendered possible to make a large number of discoveries and to establish many truths of inestimable value in relation to physiology, pathology, pharmacology, and other branches of knowledge, upon the results of which so many practical advances have been founded in relation to the healing art?

Such are the main factors which in different ways and degrees have, as it seems to me, contributed to the progress of medicine during the present century. They have been materially helped by the remarkable increase in the number and variety of hospitals and allied institutions and their adaptation for clinical instruction and research; by the extraordinary development of medical literature of all kinds, which to-day has become, indeed, almost overwhelming in its amount and diversity; and by the opportunities and encouragement afforded for bringing before the profession the results of personal observation, experience, and investigation, and for the discussion of current topics of interest or importance, by this and kindred societies, to say nothing of the larger associations, and in more recent times of congresses of all kinds. I much regret that time will not permit me to allude further to these subjects, full of practical interest though they be.

What, then, have been the practical results upon the medical profession arising from the changes which I have just outlined? and on what grounds do we rest our claim that medicine has made such material progress during the nineteenth century?

1. It must be evident to the most cursory observer who has even a superficial knowledge of the facts that the entire profession occupies an incomparably better and higher position to-day than it has ever done before, and that the general standard of knowledge and skill has steadily risen even within recent years. I desire to speak with the greatest respect of the practitioners of former generations, many of whom, perhaps, knew more than we give them credit for, or if they did not they seem to have made a very good show of "cleverness" and to have impressed their patients by their general "get-up," and what we would to-day call "putting on side," in a way that few of us can emulate at the present time. But, obviously, at the beginning of the century even the best of them could have had but a very limited acquaintance with the human body, either in health or disease, or how to deal with it; while the bulk of practitioners must have been in a state of profound ignorance and stagnation, and entirely guided by the teachings of tradition and authority. Gradually the profession was roused from this condition of apathy, and by the middle of the century had made considerable progress, as I can testify from personal knowledge. At that period a large proportion of the general practitioners, not to speak of consulting physicians and surgeons, might be described as fairly competent and skilful according to their lights, and many began to take an active interest in their vocation. From that time things have steadily and of late rapidly improved, and I unhesitatingly affirm that the average standard of knowledge and skill amongst the members of the medical profession is to-day remarkably high; while the great majority take a keen and intelligent interest in the march of events, exhibiting an earnest desire to keep abreast of the times, and to take advantage of every new discovery which can be utilised for the benefit of their patients, whether in diagnosis or treatment. Moreover, an ever-increasing proportion of the coming generations, when they finish their career as students, or even before that time, are so crammed with knowledge and science, so up-to-date in the most recent discoveries, inventions, and theories, and so really skilful, that they are a terror to their unfortunate teachers, especially those who have reached the stage of the "obsolescent senior" when age is beginning to tell upon their mental faculties; can even easily embarrass an examiner; and are equal to any position or emergency. Hence an increasing difficulty is being experienced in finding suitable spheres of work for these gentlemen, each of whom naturally, and no doubt rightly, regards himself as pre-eminently qualified to occupy any important post which happens to become vacant, and thus there arises such a keen competition for hospital, teaching, and other appointments, of which unfortunately the available number is quite inadequate to provide for the many highly trained and accomplished candidates who apply for them. At the same time the ranks of the "consultants," and of the numerous "specialists," are unquestionably becoming uncomfortably overcrowded.

2. I presume that even those who are least disposed to say a good word for the medical profession must recognise the fact that our knowledge regarding morbid processes and conditions generally, as well as individual diseases and symptoms, has materially advanced during the present century and especially during its later years. To us, however, who are more definitely acquainted with the existing state of things and can compare them intelligently with the past, the changes in this respect must seem prodigious, and we cannot but feel amazed when we try to realise what has actually been accomplished. With respect to pathological conditions and processes, many of them with which we are now quite familiar and thoroughly understand, in the earlier part of the century were either entirely unknown or the most vague and absurd notions and theories were entertained about them; and while others are still the subjects of investigation and controversy we at any rate know a good deal about them and may fairly anticipate that before long any doubtful or obscure questions relating to them will be cleared up. Moreover, we have gained a far more intelligent and accurate conception of, and insight into, the nature and the pathological and clinical history of many diseases long recognised in medical nomenclature; complaints which were formerly included under a particular name have been shown to be distinct and are now duly discriminated and classified; while affections which must have stared the profession in the face from time immemorial have only been definitely made out within a comparatively recent period, though some of the more novel diseases which are brought under our notice seem really to be developments of the nineteenth century. I dare not begin to illustrate these statements, but examples will readily occur to your minds. I merely offer them as a feeble expression of what medicine has done in the way of dispelling ignorance and establishing knowledge on a true foundation during the period which we are now discussing.

3. One of the greatest benefits which the nineteenth century has conferred upon humanity in relation to medicine is the flood of light which it has thrown upon the vast field of etiology and the striking practical results which have been worked out in connexion with this branch. The whole subject has been opened up and studied on broad and intelligent lines, as well as with remarkable attention to detail and painstaking investigation, with the result that not only has the causation of disease been made clear from its general aspects, but the relation between particular causes and a large number of the most important complaints with which we have to contend in the course of practice has been definitely determined. In this connexion it would obviously be impossible to avoid mentioning the living organisms which are now so generally recognised as etiological factors and which in modern times have worked such a profound and far-reaching change in our views and practice with regard to so many grave diseases. The progress made in our knowledge of etiological facts, general and special, and their practical application has not only enabled us as a profession to carry out preventive treatment in numberless individual cases on rational lines and with the greatest success, but has laid the foundation for that most important department now so popular which is concerned with hygiene, sanitary science, and public health. This department not only aims at the prevention of disease on an extensive scale, but also at the extermination or, at any rate, the practical control of some of the most grave and deadly maladies which afflict humanity, as well as the promotion

and maintenance of sound health in the community at large. Truly a memorable and noble purpose and aim, to which the nineteenth century has practically given birth!

4. Another striking and most helpful advance for which the present century will ever be memorable is the remarkable addition to, and development of, the methods of clinical investigation applicable for a variety of purposes, many of which we now regard as so essential for arriving at a positive and correct diagnosis. Most of these methods, moreover, are well within the scope and capacity of any properly trained practitioner, and are supposed and expected to be employed habitually and as a matter of routine. But even those which require the help of a specially skilled expert or which call for more or less elaborate scientific investigations, chemical or other, are now fully at our service. What a contrast to the condition of things 100 years ago! Imagine a time when there was not even a wooden stethoscope, far less the more or less elaborate and artistic binaural instrument now generally employed or other more scientific kinds of auscultatory apparatus; when the clinical thermometer had not been invented; when systematic examination of the urine was unknown as a means of diagnosis; and when there was no such thing as a microscope at the command of the busy practitioner. The progressive development of clinical methods is a highly interesting study, culminating in that most startling revelation or outcome of modern science, the "Roentgen rays," which promises to supplant all other methods and to enable us actually to see what is going on within every part of the human body without taking any further trouble. In the meantime, however, may I venture to suggest that it may be well for us not to rely too implicitly on these aids to diagnosis lest we become mere machines and lose altogether the faculty of using our external senses in a simple way after the fashion of our ancestors, as well as the ability to exercise and utilise the mental powers to which they must have owed the keen clinical insight with which many of the practitioners of past generations were undoubtedly gifted.

5. When we call to mind that the ostensible purpose for which the medical profession exists, at any rate from the point of view of the laity, is the treatment and especially the cure of the various maladies which afflict humanity, it is not to be wondered at if its progress during the past century should be gauged in the main by its achievements in this direction. We may be fairly asked what real and lasting advance has been made in scientific and practical therapeutics and in the "healing art"? There have been many and many changes in treatment, and vaunted "cures" without end which were going to do wonders; but how far have they held their ground and proved of positive service and reliable instead of mere will-o'-the-wisps? In answering these questions I will venture to trouble you with a brief sketch of the course of events in relation to therapeutics which has occurred within my own memory and experience, but before doing so I may affirm without hesitation that this century has in large measure revolutionised our ideas about the principles and methods of treatment, has emancipated us from narrow and erroneous views, and, not forgetting all its pretensions and failures, has added to our weapons for combating disease to an extent which can hardly be realised except by those who have actually watched the progress of the times and can from their own knowledge and observation compare the present with the past.

During the earlier part of the century treatment was to all intents and purposes a matter of unquestioned tradition, handed down from generation to generation—"echoes from echoes," as I have seen it described—and of rigorous and undeviating routine. The so-called "antiphlogistic" system held special and predominant sway, and beyond that there was but a very narrow and limited range of therapeutic agents or remedies to choose from, and these consisted entirely of drugs. Here and there some independent spirit would assert himself and start some novel treatment, but he got practically no followers and his method soon died a natural death. This was practically the state of things which I remember as an apprentice, though I am aware that at that very time there were in the more active centres of professional life signs of awakening from the dull lethargy of tradition and routine and of the breaking down of the formidable barriers to progress which they had raised. I look back to that time with somewhat mixed feelings. I will say this, that apart from the antiphlogistic treatment to which I have already referred there was at any rate little or no harm done by the medicines which I had to dispense in an ordinary way. As a rule they were of the most simple and inoffensive character, and should one of the very few strong drugs which we employed be prescribed it was in such small doses that it could injure nobody. As regards antiphlogistic treatment, however, I shudder when I think of it. It was put into force on the smallest provocation, and any poor patient who presented the slightest suspicion of fever or an inflammatory disease had a very bad time as a rule. Bleeding as an independent treatment was also rather extensively practised for various conditions, and often for no valid reason. But what I look back upon with most concern are epidemics, especially of small-pox, cholera, and what was then called "febricula," "synocha," or "continued fever," but which we now know to have been typhoid fever, which were treated on the most approved principles then in fashion, with the most lamentable results as regards mortality, though I will say that these were due rather to faults of omission than of commission. I think this is a fair example of the average state of things about the middle of the century.

When a few leading members of the profession were roused from the general apathy and began to observe and think and act for themselves, which was the first step towards quitting the beaten track, the earliest and most striking result which I can call to mind was the revolt against the antiphlogistic system as applied to febrile and inflammatory diseases, the substitution of the supporting system for that of depletion and starvation, and the special advocacy of the stimulant method of treatment by Todd, Bennett, and others, which soon became very popular and, as the natural result of undue reaction, was, of course, carried a great deal too far. After this came the time when the effects of therapeutic agents upon the human body and upon its several organs and systems, both in health and disease, began to be observed and studied methodically and scientifically. The next step was the application of the experimental method to living animals, by which the effects of a large number of agents have been investigated systematically and thoroughly, to the incalculable advantage of practical therapeutics, anti-vivisectionists notwithstanding. This line of research is now in full swing in a large number of centres in this and other countries, and the establishment of special pharmacological laboratories testifies to the firm hold which it has taken upon the profession. At the same time the clinical study of the action and uses of remedies has progressed steadily and uninterruptedly, on an ever-widening scale and by an increasing number of observers, with the most satisfactory and beneficial results in the way of testing agents, new and old, as to their real value and worth and helping to establish scientific and practical therapeutics on a rational and reliable basis.

I have already referred to preventive treatment and now propose to take a comprehensive survey of the outcome of the progressive development of the study of pharmacology and therapeutics which I have thus briefly noticed and to endeavour to form some estimate of what has actually been done in the way of advancing and improving the practical treatment of disease. Standing out conspicuously and pre-eminently above all others two achievements of this century must be ever regarded with feelings of deep gratitude, wonder, and admiration: (1) the introduction and development of anæsthetics, general and local, which have been of such incalculable service in the prevention and relief of pain as well as in other directions, and the possibilities of which seem even yet not to have been fully realised or exhausted; and (2) the working out on scientific lines, as well as on a rational and intelligent practical basis, of the great principle of antiseptic and aseptic treatment, which is now so universally acknowledged and adopted in many directions and for a variety of purposes. Whatever modifications of the views originally held and the practice founded thereon which further experience may have brought about, nothing can detract from the honour due to Lister for his patient investigations and splendid work in this department. Dr. Brouardel of Paris, when recently paying a tribute of admiration and regard to this eminent scientist and surgeon, affirmed that up to the present time at least 200,000 lives had been saved by his discovery, and probably even this estimate is far short of the mark.

Another result which the medical profession may congratulate itself upon without question is the addition to our available remedies of many genuinely useful and efficient new drugs, as well as of excellent and valuable pharmaceutical preparations and combinations, by no means limited to those

officially recognised in the British Pharmacopœia. Of course for many of these we are indebted to the remarkable progress made in scientific and practical pharmacy. We cannot boast of many "cures" for particular diseases, and have to be content in the main with those known to our ancestors for many a day, for the simple reason that the complaints which can be thus directly influenced are, so far as our present knowledge goes, and probably from their very nature, comparatively few. Of course, I am speaking of what I imagine to be the general experience and do not presume to answer for those heaven-born geniuses who have succeeded in discovering an unfailing remedy for every individual disease; who can invariably "cut short" the most grave and dangerous maladies, or make them run the mildest possible course; and who never lose a case of any description! Taking a fair and reasonable view of the matter, what I think we can claim as a profession is that we have to-day at our command a far larger and increasing number of really useful medicinal agents than in past times, and that we understand better how to employ both the old and the new, and for what purposes. We are now decidedly more able than formerly by our remedies to influence and modify morbid processes and conditions, to affect important functions, and to cure or relieve symptoms of various kinds which constitute such a large item of the service we are expected to render in ordinary practice. On the other hand, it must be confessed that out of the enormous number of medicinal agents brought under our notice by puffing advertisements in the press, medical as well as lay, by pamphlets or even large books delivered by post, or by actual "specimens for trial" which are nowadays so liberally delivered at our residences, comparatively few hold their ground, or stand a fair and candid criticism and investigation of their vaunted merits. Still a certain proportion do, and I see every reason to anticipate that, as the result of the systematic researches, scientific and practical, now carried on in so many laboratories valuable additions will be made from time to time to the medicinal agents at our disposal for the help and comfort of our patients. I only hope that in our love for the new we will not entirely throw over old friends which have done real and effective service in the past and are to-day as deserving of our regard as ever.

A distinct advance in practical therapeutics which must not be forgotten as a development of this century is in the modes of administration of therapeutic agents, the preparations and appliances intended for local purposes, and the instruments or apparatus invented for making applications to, or otherwise treating, special parts. At the present day a visit to the exhibition usually arranged for our edification at the annual meeting of the British Medical Association and at various congresses is a revelation as to what has been and is being accomplished in this direction, in which, of course, our profession is greatly aided by pharmacists and instrument-makers. I will merely refer to the many palatable, convenient, compact, and elegant preparations given to us by pharmaceutical chemists for internal administration, in contrast with the boluses, powders, electuaries, and horribly nauseous draughts and mixtures of the old pharmacy; and to the introduction of the hypodermic syringe, the value of which to the practitioner can hardly be over-estimated. Undoubtedly there are serious drawbacks associated with these advances which we must never ignore, and these are the facility with which the laity can now get strong drugs in convenient forms for their own use without any medical supervision, and the danger of falling into the habit of using powerful subcutaneous injections, which has done, and is still doing, such serious mischief, not only amongst patients but also to members of our own profession, a fact which is but too familiar.

During the earlier part of this century, and indeed until within a comparatively recent period, treatment consisted almost entirely of the use of drugs in different ways. By degrees the great principles of hygienic treatment took hold of the profession and the public, and they are now well to the fore and highly popular, at any rate in theory. Surely this is a great step in advance in practical therapeutics, and nowadays, apart from the more obvious general hygienic measures, the means for carrying out some of the most important of these principles, such as change of air, suitable climate, sea voyages, the use of baths, and the like, are so increased and improved, and so much within the reach of large numbers of the community, even to some extent among the poorer classes, that there is no excuse for neglecting them. Diet, too, has come to occupy a far more conspicuous place in treatment than formerly, and is regulated on more scientific principles, certainly to the general advantage, though there is, perhaps, a tendency in the profession on the whole to make more of questions relating to food and drink than seems absolutely necessary, which renders it very difficult to deal with not a few patients who, being quite "up-to-date," expect to receive the most explicit directions as to diet under every conceivable circumstance, and suitable for every complaint, real or supposed, from which they may happen to suffer. And what shall be said about nursing, which to-day is so universally and rightly regarded as one of the most important and essential parts of modern treatment? Some of us here present must have a vivid recollection of the hospital nurse of former days, who was as incompetent as she was unattractive and insanitary, and of the time when private nursing as it now exists was practically unknown. The progress that has been made in this department is simply amazing, and those of you who are only familiar with the present state of things can have no possible conception of the magnitude of the changes which have taken place during the last 30 or 40 years and of the comparative advantages in the way of capable and reliable nursing which modern treatment affords.

A conspicuous, and within due limits really serviceable, development of modern therapeutics is the introduction or more systematic working-out of what I may term "special methods" or "combinations of methods," which are still being added to, and intended either for the purpose of producing some particular effect which might be beneficial in various conditions or for the treatment of some individual disease or class of diseases. It would be quite out of place to attempt even to enumerate these methods on the present occasion, and I will merely remark that they are not all really novel, some being the revival of methods formerly practised, or the application, more or less elaborate, of well-known physical principles. Others, however, are the natural outcome of the more or less modern discovery of forces, or elements, or facts previously unknown, which under judicious and intelligent guidance have been found to be highly valuable in treatment when properly employed. Others, again, are essentially recent and original, especially those which we owe to the truly astonishing and far-reaching results of investigation and research in relation to bacteriology and kindred subjects. Taking a comprehensive view of these modern special methods, they certainly are so far to be commended that they present a practical protest against the needless and excessive use of drugs and are, when rationally and honestly employed, often of unquestionable advantage in treatment. Some of them give evidence of the possession on the part of those who are responsible for their introduction to the profession or their practical working of considerable ingenuity and inventive ability, others of a profound knowledge of human nature. I am sorry to say that they afford excellent opportunities for the most outrageous quacks outside the profession to enrich themselves at the expense of the idiotic simpletons who are still found in such large numbers even in this highly educated and enlightened age. Of this statement I could give some glaring and really ludicrous examples from personal knowledge. But what can we expect when so many men and women of intellect and culture, aggressively scientific, will to-day throw over everything that is orthodox in our profession and pin their faith upon any system, however pretentious and absurd it may be, which gives itself a high-sounding name, and will even prostrate themselves before the Christian Scientist!

It would ill become me as a physician if I did not on the present occasion, in relation to the progress in treatment which I am now discussing, pay my tribute of respect and admiration to modern surgery, which has achieved such marvellous and brilliant results in a variety of directions. I well remember the time, and have myself witnessed the performance, when the highest boast of the operating surgeon was that he could amputate a limb, remove a breast, or cut out a stone within so many seconds, with little or no regard or care for the ultimate issue of the case. At one time I had a good deal to do with surgery and my recollections of its operative aspect and of surgical treatment generally in those days, negative as well as positive, are anything but happy or pleasant. Speaking to-night as a physician, I feel sure I am expressing the sentiments of my colleagues as well as of practitioners generally when I gratefully acknowledge our indebtedness for the improvements in minor surgery which have proved of such value in the treatment of medical cases, when we have to deal with internal accumulations of fluid

and various other morbid conditions. But this advance sinks almost into insignificance in comparison with the astounding achievements of surgeons as regards the formidable operations which they now perform in connexion with the internal cavities, especially the abdomen, as a matter of course and with such remarkable success. I can myself call to mind but too vividly not a few cases in former days, particularly of thoracic and abdominal disease, in which the patients were allowed to die unrelieved or to drift hopelessly through much suffering to an inevitably fatal termination, where to-day surgery would step in and almost to a certainty avert death at a critical time or ultimately save life and restore the sufferer to health and vigour. Of course, these achievements could not have been possible were it not for the invaluable aid afforded by anæsthetics and antiseptic or aseptic treatment. These, however, only gave the opportunity for the manifestation and exercise of latent and dormant capacities and powers in individuals, which have gone on steadily developing and improving until they have brought us to the present stage almost of perfection, though the extreme limits of operative treatment seem to have been by no means yet reached. Personally I regard it as an honour to belong to a profession which can boast of so many members whose originality in conceiving, devising, and working out the most formidable operations; whose manual skill and dexterity; whose confidence, nerve, daring, and pluck; whose striking and devoted attention to detail; and whose intelligent and painstaking after-treatment have conferred such inestimable benefits upon suffering humanity, and at the same time have made the nineteenth century memorable for the splendid position to which they have raised the art of surgery.

I have thus endeavoured, however imperfectly, to give some comprehensive sketch of what strike me as the most prominent and important changes which have guided the course of the medical profession during the century which is now rapidly drawing to its close and the lines upon which progress has taken place. I by no means wish to make ourselves out better than we are, and we must all recognise the fact, but too evident, that there are many dangers and difficulties and drawbacks in connexion with our vocation, both in its internal workings and its external relationships, which cannot fail to rouse feelings of anxiety and concern as to the future in any thoughtful mind. But let us to-night be optimistic and take a bright and hopeful view of things. The Archbishop of Canterbury recently expressed his belief "that there could not easily be found, all the world over, a body of men who approached more nearly to the full discharge of their duty than the clergy of the Church of England." That sentiment I unhesitatingly appropriate for the great bulk of the medical profession. And looking back upon the nineteenth century I venture to affirm, with a feeling of assurance and pride, that their efforts during this period have contributed in a degree which can never be adequately realised or estimated to the saving and prolongation of life, to the cure and prevention of disease, to the eradication or great amelioration of many grave and formidable maladies, to the practical relief of human suffering, and to the promotion of the health and general well-being of the community at large.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The autumn meeting of the South-Eastern Division will be held at Bethlem Hospital, London, S.E., on Monday next, Oct. 16th, at 3 P.M. After the general business Dr. Hyslop will read a paper on Some Rare Forms of Skin Affections in the Insane; Dr. Craig a Note on the Value of Erythrol Tetra-nitrate in the Treatment of Melancholia; and Dr. Stoddart a paper on Metabolism of the Nerve Cell. The members will dine together at the Café Monico, Piccadilly-circus, at 6.30 P.M.

LITERARY INTELLIGENCE.—The "Revista Ibero-Americana de Ciencias Médicas" is one of the best Spanish medical reviews which we have seen. It is published monthly in Madrid, the editor being Dr. Luis Marco. The September number, which is the sixth from its commencement, contains articles on Actinomycosis, Vital Statistics in Barcelona, Surgical Disinfection, and Social Invalids. Some of these papers are really beautifully illustrated by half-tone process blocks printed in phototint interspersed among the letterpress. There are also some elaborate critical notes on Hippocrates by Don Donaciano Martínez Vélez.

An Introductory Address

ON

THE PRESENT CONDITION OF MEDICAL EDUCATION.

Delivered at the Cardiff Medical School on Oct. 6th, 1899,

BY ALFRED W. HUGHES, M.B. EDIN., F.R.C.S. ENG. AND EDIN.,

PROFESSOR OF ANATOMY AND DEAN OF THE MEDICAL FACULTY, KING'S COLLEGE, LONDON.

GENTLEMEN,—I first of all desire to express my gratitude to my former colleagues on the Senate of this college for asking me to deliver the inaugural address of the present medical session and thus giving me the opportunity of being once more present among you.

At the outset of my task I wish to congratulate the supporters of this school on its continued success and on the important position which it has so rapidly attained amongst the teaching institutions of this country. When the school was founded some seven years ago great differences of opinion were entertained and freely expressed as to its future and destiny. By some it was doomed to failure and early death; other pessimists predicted an existence of suspended animation in the form of an ornamental college lecture department, or perhaps in a state of surface irritation as a third-rate provincial cramming institution; while a few saw great possibilities of developing on sound lines an institution which would serve useful purposes in the training of young men for the efficient practice of an honourable profession. Further, those who were interested in the great educational development which has so deeply stamped itself on the Welsh history of the past quarter of a century saw a means of advancing another step towards the attainment of that high and perfect educational result which as a nation we are striving to establish.

This school has to my definite knowledge placed within the reach of a few the means of entering a profession from which, owing to particular circumstances, they would otherwise have been excluded. Further, the educational results as shown by the successes of students in examinations have been most encouraging, some of the highest honours obtainable in this country having been awarded to students of this school, many of whom have also after keen competition against students from other universities and provincial medical schools enjoyed the advantages of valuable scholarships tenable during the last two or three years of their curriculum. Fortunately, we are able to recognise already a result which has fully satisfied the wildest expectations of the supporters of the school, a result which has fully justified the actions and anticipations of its founders. This success is all the more encouraging when we bear in mind the period at which the school was established—a period which has profoundly affected a number of important medical schools in the kingdom as shown by the remarkable diminution in the numbers of students. This diminution, though specially marked in certain schools, was fairly general throughout the medical schools of the country. This period of diminution was closely identified with the adoption of the five years' curriculum which has by now become fairly established as representing the necessary period of study previously to the passing of the final examination. It has occurred to me that now this epoch or transition stage is passed we might with advantage consider what changes have been brought about in the scheme of medical education and what are the evident results; in other words, how does the present system compare with the past as regards efficiency.

When the history of medical education in this country is written it will probably be found that the most revolutionary period will be comprised in the past quarter of a century, both as regards medical and surgical teaching as well as the methods of training medical practitioners. I wish it to be understood distinctly that I am discussing at present the training requisite for the ordinary qualifications to practise and not for the university degrees or the higher qualifications.

25 or 30 years ago a period of pupilage or apprenticeship

to a medical practitioner was almost universally recognised as an essential part of medical training. At that time attendance at a medical school during three winter and two summer sessions satisfied the requirements of the diploma-granting bodies. Two winter sessions and one summer session were devoted almost exclusively to the subjects of anatomy, physiology, and chemistry, hospital being attended and some surgical dressing learnt during the same period. Gradually, owing to an increase in the amount of necessary work, the curriculum was extended to a minimum of four winter and four summer sessions, and with increasing demands made on the time of students during their first two or three years by the inclusion and expansion of subjects—viz., biology, physics, and physiology—it was thought that hospital attendance was inadvisable until the student had passed his examinations in anatomy and physiology. As an inevitable result of these changes and the keeping away of students from early hospital work came the discovery that at the end of a four years' curriculum students were found unfit to receive diplomas to practise owing mainly, as was repeatedly pointed out, to a want of practical knowledge, especially in clinical work. To remedy this it was decided that a fifth year should be added to the medical curriculum, and I wish to point out that up till quite recently the first two years of the ordinary curriculum were devoted to anatomy, physiology, chemistry, and some hospital work, no examination in biology or physics being required, and that the fifth year was solemnly declared to be for the purposes of clinical work.

Such, briefly, is the history of the late transition period in medical education and I would like to glance at some of its effects and results. I would again emphasise the fact that I am not discussing the training of university graduates, whose course usually extends to six years, but I am endeavouring to examine the training of the ordinary students who are honestly attempting to fit themselves thoroughly for the medical profession as general practitioners. While I do not consider that the period of five years is too long for the thorough training of a medical practitioner, still I firmly believe that the time of medical students is not at the present time employed to the best advantage and that the educational result is not commensurate with the expenditure of time and energy on the part of students preparing for a professional career. I have pointed out that the additional fifth year was originally intended to be devoted exclusively to clinical work, but with the addition of work and the expansion of subjects during the first year and the consequent delay in passing the examination in anatomy and physiology this is frequently rendered impossible. Not only have additions and expansions taken place in the earlier subjects of the curriculum, but even greater expansions and additions are found in the subjects of the later stages of the curriculum, and attendances formerly optional are now included amongst the compulsory parts of a medical course. In the study of pathology especially and the allied subject of bacteriology more time is demanded of the student and no one will attempt to question the value of time spent over such important subjects. Operations must be performed on the dead body, instruction has to be received in certain special subjects, such as ophthalmic surgery, mental diseases and insanity, and in infectious diseases, until the time of the ordinary student is so much occupied in special departments that fears are justly entertained lest the main branches of the curriculum may thereby suffer. Owing to the addition and subdivision of subjects a plethoric condition has resulted which has greatly affected the general training of students; and of all the subjects in the curriculum the one which has suffered most is anatomy, wedged in, as it is, between the additional early studies of biology, chemistry, and physics on the one hand and the greatly expanded and enormously subdivided final subjects on the other.

Year by year my conviction becomes firmer that, speaking generally, the average student of the present day has not the same grasp of the fundamental facts of anatomy which his predecessor acquired under the old regulations. I have frequently been told by surgeons that students attending hospital and preparing for their final examination who have already passed their anatomical and physiological examinations are frequently found deplorably ignorant of some of the most salient points of anatomy. This unsatisfactory state of things is partly due to the congested condition of the curriculum and partly to the unfavourable position in which anatomy is placed with reference to the other subjects. Some have attempted to lay the blame at the feet of the teachers of anatomy of the present day, who are accused of ignoring in their teaching the practical applications of anatomy which must appeal most forcibly to the student of medicine—in other words, that human anatomy is taught at present from a morphological rather than a practical and applied standpoint. It is true that during recent years enormous changes have taken place in anatomical teaching in this and in other countries, owing partly to the influence of improved methods of anatomical investigation and partly to the fact that anatomy has been studied more and more in the light of embryological and morphological discoveries. So profoundly have these influences affected the subject that during the past quarter of a century descriptive anatomy has been revolutionised to an extent quite unparalleled during any similar period in the history of the subject. Side by side with these developments changes have taken place in the *personnel* of the anatomical teachers in this country. Until quite recently most of the teachers of anatomy, excepting those at some of the universities, were at the same time practical surgeons, and under such circumstances we may rightly expect that points of practical interest were forcibly presented to the student. Gradually the teaching of anatomy has drifted into the hands of pure specialists and there are grounds for fearing that the all-important applications of anatomy are being treated with less respect than morphological speculations, highly interesting to the specialist but of questionable utility to the practical surgeon. It will veritably be a gloomy day for medical training in this country when anatomists cease to recognise that the dissecting-room workers of to-day are the practitioners of to-morrow. The time at the disposal of students for the study of anatomy is so utterly inadequate that I fully sympathise with them when I am told that they have no time for that most necessary revision of their work. Without this the amount of anatomy which they have hurriedly acquired is soon forgotten and that mental skiagraph of the human body which should be the possession of every student is not obtained. A mere passing impression of the subject is gained which is blotted out soon after the examination is over. When we consider that anatomy is being gradually squeezed almost out of existence between the aggressively assertive preliminary scientific subjects, biology, chemistry, and physics, on the one hand, and the gradually expanding and progressively budding final subjects on the other, can it be wondered at that teachers of anatomy and surgery are compelled to look upon the existing state of things as grave?

The main factor which to my mind has caused this great interference with anatomical work is the expansion of, and additions to, the early medical studies. Formerly the first year was devoted almost entirely to anatomy and chemistry, and the second year mainly to anatomy and physiology, and students were able to gain a thorough mastery of these subjects. At present the first-year student studies chemistry, physics, biology, pharmacy, and anatomy. During his first year he is examined in chemistry and physics, biology and pharmacy, but not in anatomy; and I would ask, in all seriousness, what chance has anatomy of being studied during the first year under such circumstances? If biology is to be a subject of examination during the first year then I would ask in the interest of future surgeons that some part of anatomy be included also, and I have never been able to find any satisfactory reason why the old examination in elementary anatomy was discarded, excepting that licensing bodies and that autocratic institution the General Medical Council sometimes move in most mysterious ways and draft regulations after wondrous fashions which are past finding out. There are comparatively few who will at the present time seriously maintain that the smattering of biology required for the examinations of the various conjoint boards is of any real value to the student either as a scientific training or as an introduction to human anatomy. To my mind its inclusion in the ordinary curriculum merely encourages the student to trifle with a subject and to waste time which should be devoted to the study of subjects intensely important from a professional point of view. In determining the character of the education required for university degrees the case is widely different, as here the nature and amount of preliminary scientific training should be matters of great importance, but in prescribing courses of instruction required for ordinary licences to

practise preliminary scientific subjects should be found in such proportions only as are considered necessary and conducive to the proper study of the more professional subjects.

Unless some additional time can be found for the study of anatomy during the early part of the curriculum I am firmly convinced that the class of operative surgery attended by final-year students should be largely expanded and made to include a substantial amount of applied anatomy which should be studied, not merely from books, but *practically* in the dissecting-room. Anatomical work of such a kind could not fail at this stage to interest the student, and the knowledge thus acquired would be so practical and applied in its character as to be of real and permanent service to him in after life.

I trust, gentlemen, that nothing which I have said has created an impression that I look with disfavour on the thorough teaching of preliminary scientific subjects. I believe that the advantages of such a training are enormous and the effect of a thorough grasp of these subjects is inestimable; but what I do mean is this, that when we are admittedly engaged in the task of training practitioners of medicine in a limited time we should endeavour to do so to the best possible advantage, and that rather than offer them a wide smattering of endless branches of subjects we should at least put them in the way of mastering the fundamental facts of anatomy, physiology, and pathology, which when applied to the important subjects of medicine and surgery will logically guide them in solving the great problems of disease which they will encounter throughout life. What a man requires in his profession, whatever it may be, is a clear grasp of the fundamental principles on which it is based and an accurate knowledge of the facts with which he has to deal. These are obtained to-day as ever on the broad highways and not by dilettante excursions into side-paths before the student has mastered the general chart of the country.

So far I have discussed questions which concern medical schools generally. I would now ask you to consider some points of home policy which concern your own medical school. Up to the present, the functions of this school have been strictly limited to the training of students in the earlier subjects of the curriculum, with some hospital work, and I have already referred to the great success which has attended these efforts.

The question will soon arise, How long should the Cardiff Medical School confine itself to this limited sphere of work? I am fully aware that I am now approaching a very debateable subject and I wish to do so with all due caution, hoping it will be understood that I am merely expressing my own personal views without consultation of any kind with college authorities or members of the medical profession in this district. From a full consideration of all sides of the question I give it as my earnest opinion that the time has arrived when steps should be taken to complete the Cardiff Medical School. A number of subjects would have to be provided for, such as medicine and clinical medicine, surgery and clinical surgery, obstetrics and gynæcology, and public health, and certain special departments, especially that of ophthalmic surgery. Anyone acquainted with this district will readily recognise that you have at your very doors men who would worthily fill teaching positions in these subjects and of whom any medical school might well be proud. Further, the occupancy of a teaching position in a medical school tends to stimulate the energies of a teacher to keep fully abreast of all recent developments in the subject which he professes to teach. It is unnecessary to dwell on the effect of such stimulation in further establishing for Cardiff a reputation as a great medical centre.

Financial considerations need not interfere seriously with the necessary arrangements for the efficient teaching of these subjects, as the teachers devote only a small part of their time to teaching and the cost of apparatus is slight, but one subject is on quite a different footing from those mentioned. I refer to the subject of pathology and the allied subject of bacteriology. While the other subjects mentioned can be undertaken by practitioners without any serious financial sacrifices, in the case of pathology, owing to the character and extent of the subject, the entire time of a specialist must be applied exclusively to the department. Hence it follows that before your college authorities are justified in embarking upon this further stage in the development of the medical school some provision in the form of an endowment becomes necessary in order to relieve all anxiety as to such an important subject as pathology. I know of no such opportunity which offers itself to any public-minded citizen anxious to advance medical learning as is offered in such a connexion as this, and, speaking from a fairly extensive knowledge of the medical conditions in this country, I can say most emphatically that I know of no method by which more good could be extended to suffering humanity than by establishing a pathological department in this school. It would be of incalculable value to countless sufferers whose advisers are at present debarred from privileges and advantages enjoyed by those in close proximity to a complete medical school. It is fortunately barely possible to suppose that in this important district such aid will not be forthcoming if we only consider what has been done in other provincial towns towards medical and scientific training during recent years.

Any anxiety as to the sufficiency of clinical material should be promptly dispelled by an acquaintance with the surrounding district of Cardiff and especially with the resources of the Cardiff Infirmary and the high character of the work done therein; and while there is a general idea that all students should proceed to London to study medicine and surgery I would point out that the clinical material there is split up among 14 or 15 general hospitals and that a great proportion of special cases are drafted into the almost innumerable special hospitals into which students rarely enter. I would further point out that with the introduction of teaching in final subjects a great increase in the number of illustrative cases would inevitably follow; the hospital would become more and more a consultative centre and almost every possible variety of disease would be represented and available for teaching purposes. The fifth year which has been so solemnly allocated for clinical work might with advantage be utilised in visiting other hospitals in London and elsewhere. Such experience, obtained after the ordinary curriculum work was over, would be of great value by bringing the student into familiarity with the practice of two or more institutions. It would give breadth to his experience and avert an affection which has been designated the "concentration of provincialism."

Lastly, I would point out that this university college is one of the constituent colleges of the University of Wales which stands out alone amongst the universities of the United Kingdom in not possessing powers to grant degrees in medicine. When once this college possesses a complete medical school then the university could justly claim powers through a supplemental charter to grant degrees in medicine and take up a position in relation to medical teaching and research which would, in my opinion, be advantageous to the university and beneficial to medical science, and by encouraging medical and surgical advancement in this great industrial centre would confer indirectly a blessing on the medical profession throughout the principality.

FALMOUTH WATER-SUPPLY.—At the meeting of the Falmouth Corporation held on Oct. 4th it was decided, at the suggestion of Dr. W. Banks, that steps should be taken to bring the water-supply of the borough under the control of the corporation, and the clerk was instructed to write to the secretary of the Falmouth Waterworks Company to ascertain if the directors were willing to enter into negotiations for the sale to the council.

NOTTINGHAM GENERAL HOSPITAL.—The 117th anniversary service and meeting of governors in connexion with the Nottingham General Hospital was held on Oct. 5th. Many of the governors assembled as usual at the Shire-hall and walked in procession to St. Mary's Church, where the mayor and members of the corporation also attended, and the sermon was preached by the Dean of Rochester. After the service the usual meeting of governors was held at the Shire-hall, Mr. Philo L. Mills presiding. The report of the monthly board, which was read by Sir Charles Seely, showed that from March 1st to Sept. 1st there had been 1332 patients admitted and 147 had died; 342 cases were discharged to "The Cedars," of which number nine went back to the hospital for further treatment and 333 returned home. Reference was also made to the new buildings in course of erection and a motion was passed condoling with the family of the late Mr. Joseph White, consulting surgeon to the hospital.

An Introductory Address
ON
THE ACHIEVEMENT OF THE MENS MEDICA.

Delivered at the Meath Hospital and County Dublin Infirmary on Oct. 9th, 1899,

BY JOHN WILLIAM MOORE, M.D. DUB., P.R.C.P. IREL.,

PHYSICIAN TO THE MEATH HOSPITAL.

[DR. MOORE commenced his address with an enumeration of recent structural improvements in the hospital and a reference to some changes in its management brought about by the Local Government Act (1898). He then continued:]

Gentlemen, members of the medical and surgical class of the Meath Hospital, to you especially shall my brief words on this occasion be addressed. Many of you are to-day standing upon the threshold of your life work—and a very solemn life work it is. "Medicine," said the late Sir Andrew Clark in one of his many addresses to students, "is the metropolis of the Kingdom of Knowledge." "You have chosen," said he, "one of the noblest, the most important, and the most interesting of professions, but also the most arduous and the most self-denying, involving the largest sacrifices and the fewest rewards. He who is not prepared to find in its cultivation and exercise his chief recompense has mistaken his calling and should retrace his steps." The issues at stake in the practice of the medical profession are indeed momentous. To the physician are for the time being in a measure committed the balances of life and death; the joys and sorrows of humanity pass daily in a pageant before his eyes; to him are entrusted secrets, the revealing of which might blast a reputation or snap the thread of life. He is the confidant of manhood, the trusted champion of womanhood, the friend of little children. His part it is to tell of approaching death when his skill has failed to save life—oh, let him act this tragic part with tenderness and sympathy.

Such being the dignity and the responsibility of our profession, surely we should approach its portals with bated breath and reverent mien. I do not urge that the physician should be an ascetic. The very solemnity of our work forbids this and counsels recreation as a foil to the stern realities of our daily life. The best physician is the man who, daily witnessing the havoc wrought around him by the hand of death, from his experience forms the habit of acting with a constant view to death and develops the earnest desire to shield from its stroke the sick entrusted to his care. "Perception of distress in others," writes Bishop Butler in the "Analogy of Religion," "is a natural excitement passively to pity and actively to relieve it; but let a man set himself to attend, inquire out, and relieve distressed persons and he cannot but grow less and less sensibly affected with the various miseries of life with which he must become acquainted; when yet, at the same time, benevolence, considered not as a passion but as a practical principle of action, will strengthen, and whilst he passively compassionates the distressed less he will acquire a greater aptitude actively to assist and befriend them." This is the *mens medica* which endows the true physician with the God-like power of healing. His compassion, observation, experience, reason, and learning are all enlisted in a self-denying and supreme effort to combat disease and to ward off death. The *mens medica* of which I speak is a possession not to be lightly won, but to be highly prized. It is, as it were, the Golden Fleece which you, the Argonauts, must win through many trials and temptations, through many perils by land and sea. My task, in the few moments allotted to me on this red-letter day of a new session, is to point how best this prize may be achieved.

With much concern the physicians of the hospital have observed that for some years back—especially since the institution of a fifth year of medical study—students have been inclined to pay less attention to their clinical work than was hitherto their custom. They still "walk" the hospitals, but their attitude has become less actively attentive than of old. When it was not compulsory to "take cases" cases were taken as they should be taken—that is, the patients were visited twice a day and every symptom and turn of their illness were noted. Now, I do not for one moment wish to belittle the teaching in our schools of medicine. A liberal general education and a sound knowledge of the ancillary sciences are essential elements in the evolution of the physician or the surgeon. But the paramount use of these aids to a professional training is to enable the medical student rightly to observe and study disease—and this crowning work of medical education can be pursued only at the bedside of the sick—there alone can "the ways of the sick" be learned. In my first address, delivered in 1875, I quoted Robert James Graves on this point. With your permission I shall quote him again. In his first introductory lecture after his appointment as physician to this hospital in 1821 he said: "From the very commencement the student ought to witness the progress and the effects of sickness and ought to persevere in the daily observation of disease during the whole period of his studies." He continues: "A great number of students seem little, if at all, impressed with the difficulty of becoming good practitioners; and not a few appear to be wholly destitute of any prospective anticipation of the heavy, the awful responsibility they must incur when, embarking in practice, the lives of their fellow-creatures are committed to their charge. It is by persons of this description that the earnest attention and permanent decorum which ought to pervade a class employed in visiting the sick are so frequently interrupted. Young men of the character to which I allude attend, or, as it is quaintly enough termed, *walk*, the hospitals very regularly, but they make their appearance among us rather as critics than as learners—they come, not to listen, but to speak—they consider the hospital a place of amusement rather than of instruction. Students should aim not at seeing many diseases every day; no, their object should be constantly to study a few cases with diligence and attention; they should anxiously cultivate the habit of making accurate observations. This cannot be done at once; this habit can be only gradually acquired. It is never the result of ability alone; it never fails to reward the labours of patient industry. You should also endeavour to render your observations not only accurate but complete; you should follow when it is possible every case from its commencement to its termination, for the latter often affords the best explanation of previous symptoms and the best commentary on the treatment."

In some degree the languid case-taking of the present day is due to the active training of nurses and probationers which goes on in our wards. Our neat clinical charts are filled in by the probationers who are trained to take observations on the temperature, the pulse-rate, and the rate of breathing. But this should not interfere with the case-taker's records—quite the reverse, for a second series of observations would control the first. Speaking with more than 30 years' experience as both student and practitioner I assert with all the emphasis at my command that the student who neglects his clinical work or carries it out in a half-hearted and perfunctory manner will bitterly regret his lost opportunities in after life. Sooner or later, with much searching of heart and with many a misgiving, weighed down by a full sense of undivided responsibility, he will have to strive after that experience which was within his grasp while yet a student, when he could share all responsibility with his teachers and was sheltered beneath the ægis of their position. The apologist of the medical student will urge that so many new subjects have been added to the curriculum and examinations that he has no time for hospital practice. To this apology there is a threefold answer: (1) a fifth year has been added to the curriculum; (2) the additional subjects are necessary if he is to be an "up-to-date" physician and surgeon; and (3) their study renders hospital work at once easy and fascinating.

Medicine and surgery have advanced within the past quarter of a century by leaps and bounds. Almost precisely 20 years ago—on Nov. 3rd, 1879—it was my lot to deliver the address introductory to the session in this hospital and I chose as my subject "The Microcosm of Disease." The term "bacteriology" was not then in use, but it was what I meant. Look how rapid and how conducive to the welfare of mankind has been the march of knowledge in regard to the bacterial origin of disease. Think of the triumphs of modern aseptic surgery, more glorious because more beneficent than any triumphs the world ever saw before. Nor

has medicine lagged behind. Day by day we are learning more of the intimate nature of contagion in relation to the infective diseases; our diagnostic powers have been reinforced by microscopic investigation of stained bacteria, by observation of the altered behaviour of certain pathogenic micro-organisms in the presence of infected blood—witness the Widal test for typhoid fever; and diphtheria has been robbed of its terrors by the serum or antitoxin treatment.

The nature of the fever process is now far better understood than it was even a few years ago, and we have learned that "fever," or elevation of bodily temperature above the standard of health, or "normal," serves a useful purpose, provided that it is properly controlled. There is, in fact, what the Germans aptly call "das Heil-Fieber"—"the fever which brings back health." At the close of an able address on "Antipyresis" before the Tenth International Medical Congress at Berlin in 1890 Professor Arnaldo Cantani of Naples, used the memorable words—"Das Fieber, das in so vielen Krankheiten der beste Verbündete des Arztes ist"—"the fever, which in so many diseases is the best ally of the physician." Fever, in a word, purges the system. In an excellent article on typhoid fever, written in the present year, Dr. Affleck and Dr. Ker of Edinburgh say: "The ordinary fever of a typhoid case runs such a fixed and definite course that it is hard to believe that the pyrexia is not nature's cure for the disease." In this mixed assembly of laymen and members—actual or presumptive—of the medical profession I would raise a warning voice against the pernicious doctrine that in fevers the temperature must be reduced as quickly as possible to what is popularly called "normal." It cannot be too often or too emphatically and authoritatively declared that such a procedure is very likely to destroy life. The so-called antipyretic medicines, or heat-reducers, should never be used by unskilled hands. The employment of such remedies, even by the skilled physician, calls for the utmost caution and the most anxious consideration. The danger lies in an interference with the production of body-heat while the escape of heat from the system is increased. In this way collapse is likely to be induced. For many years I have taught that the only safe antipyretic, or assuager of fever-heat, is water, and especially cold water. It helps the escape of heat from the body in many ways while it does not interfere with heat-production—rather, indeed, does the use of cold water internally and externally encourage the evolution of heat in the body.

[Dr. Moore here uttered a caution against the indiscriminate giving of alcoholic stimulants to patients and said that medical men ought to have at least a theoretical knowledge of cookery. He deprecated the treatment of phthisis in the general wards of hospitals and concluded as follows:]

There is one fact which, if once pressed home, may save you and others from many a heartburning in your professional life. A physician or a surgeon has no vested right or property in a patient. To put it in another way, the public have the most absolute right to choose their own medical attendants and to change them as often as they please. Therefore, do not pick a quarrel with a professional brother on the ground that he has superseded you, and do not judge him harshly, or at all, until you have heard both sides of the question. Do not misunderstand me. While the public must be left free-handed in this matter a serious responsibility rests upon every member of our profession who does not act towards his professional brethren with tact, consideration, and forbearance. Never take advantage of a brother. If you are called in to visit a patient hitherto under his care acquaint him of the fact with the least possible delay. Come to an honourable understanding with him. Do unto him as you would that he should do unto you. If he then takes umbrage the fault lies at his door, not at yours. Such is "medical etiquette." William Stokes concluded one of his eloquent addresses on our conduct towards other men with the words of Hamlet: "Use them after your own honour and dignity; the less they deserve the more merit is in your bounty."

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.—The following scholarships have been awarded in connexion with this school: School Scholarship, value £30, Miss Sommer; Bostock Scholarship, value £60 a year for four years, Miss Payne; Mabel Webb Research Scholarship, value £30 a year for two years, Miss Vaughan, M.D., B.S. Lond.

A CASE OF TYPHOID FEVER OF UNUSUAL DURATION.

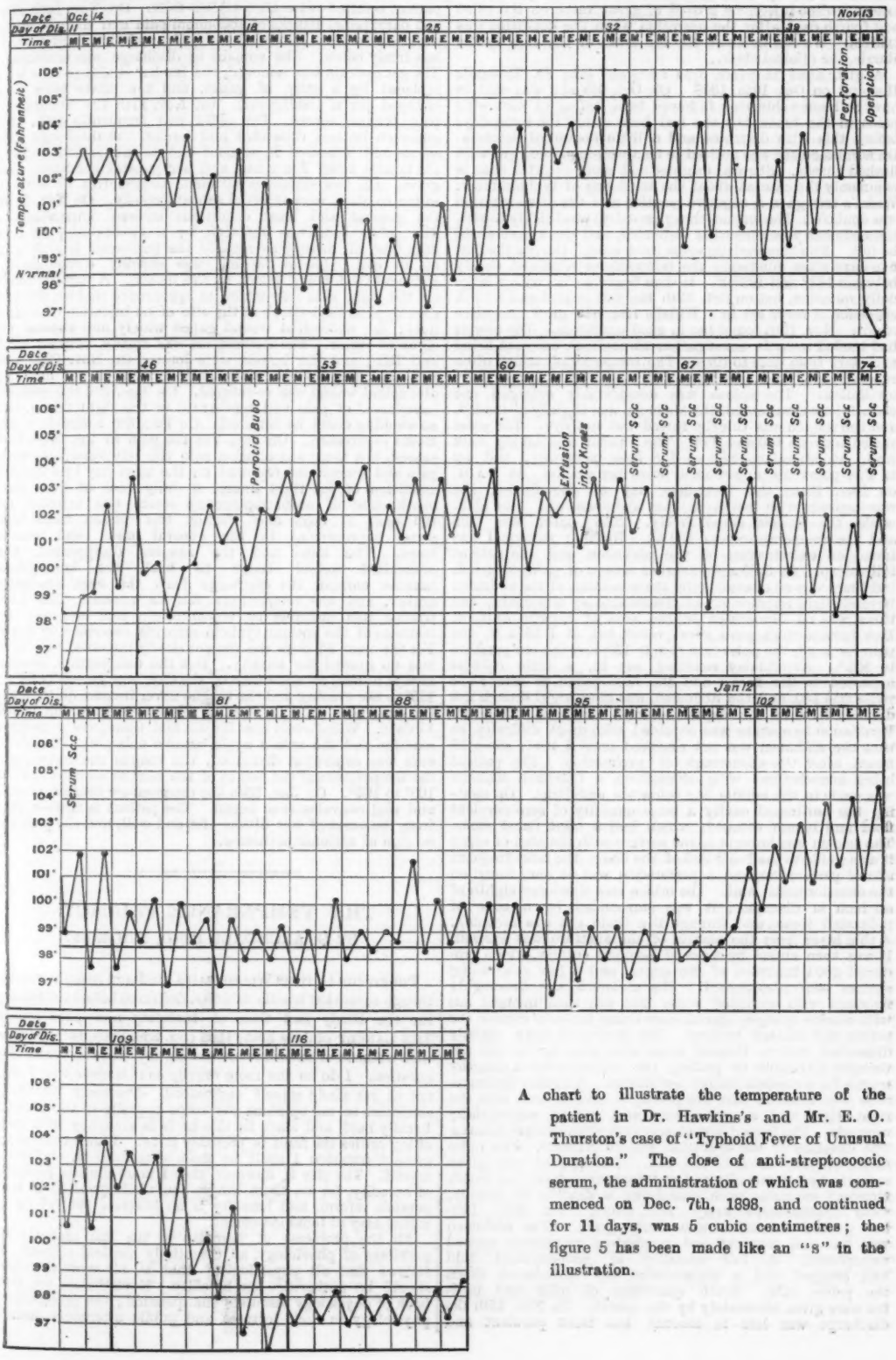
PERFORATION OF CÆCUM AND PERITONITIS; OPERATION; RECOVERY.

BY HERBERT P. HAWKINS, M.D. OXON., F.R.C.P. LOND.,
PHYSICIAN TO ST. THOMAS'S HOSPITAL;
AND
E. O. THURSTON, M.B., B.S. LOND., F.R.C.S. ENG.,
LATE SURGICAL REGISTRAR TO ST. THOMAS'S HOSPITAL.

APART from the saving of a life after the onset of general peritonitis due to perforation of the cæcum, this case of typhoid fever presents other points of interest. The total duration of the case down to the final cessation of fever was 114 days. This period comprises a first attack lasting 76 days (with a considerable remission of fever at about the twenty-first day), an interval of 24 days of slight irregular fever, and a definite relapse lasting 14 days. This relapse began on the one-hundred-and-first day of the illness. In the next place it may be noted that Widal's test gave a negative reaction on the fifteenth, the twenty-second, and the thirty-seventh days of the illness, there being no clumping or loss of motility at the end of 30 minutes with a dilution of 1 in 20. A positive reaction was, however, obtained on the one-hundred-and-third day, a dilution of 1 in 20 producing clumping in 10 minutes and a dilution of 1 in 50 acting in 30 minutes. On reference to the chart a curious disturbance of the natural temperature-curve is seen during the eight days succeeding the operation. Finally, when the patient fell into a septic state about a fortnight after the operation, developing a parotid bubo and an affection of the knee-joints, the abdominal wound showing no tendency to heal, the administration of 55 cubic centimetres of anti-streptococcic serum in 11 daily doses may perhaps be credited with good effect.

From the surgical point of view the case has some unusual features, taking the statistics of Fitz[1] as a standpoint. Perforation of the cæcum is uncommon, Fitz giving 12·9 per cent. of cases as occurring in the large intestine and others placing the percentage at a still lower figure. The character of the hole in the bowel was odd. The zone of induration around the small orifice probably signifies that healing was far advanced when perforation occurred. This condition greatly facilitated the suturing. Minor points are the age of the patient—23·8 per cent. of cases occurring in the second decade as compared with 39·8 per cent. in the third (Fitz)—and the late date of the perforation, the forty-first day of the illness. In severe cases of typhoid fever it is often impossible to recognise the occurrence of perforation quickly and certainly, but when it can be recognised it is clear that surgical treatment affords an appreciable chance of recovery. Keen and Westcott[2] collected a series of 83 cases of operation in this condition. To these Platt[3] added 20 cases. A successful case has been recently recorded by Pearson[4] and an unsuccessful case by Barrs and Moynihan.[5] Of these 105 cases 22 resulted in recovery. Success must depend mainly on the time at which the surgeon can operate. Figures seem to show that the cases which are dealt with in the second 12 hours after perforation are the most favourable, this time corresponding to the recovery from the initial shock (Keen). Either a median or a lateral incision may be used, each having its supporters. Keen prefers the former on the grounds of readier access to the ileum, better cleansing of the peritoneum, and better drainage. The hole in the bowel is best treated by simple suture by Lembert's or Halstead's method, excision of the ulcer being unnecessary. The cleansing of the peritoneum is best accomplished by irrigation with sterilised water or normal saline solution combined with sponging of the pelvis and lumbar hollows at the end of irrigation. Finney[6] is strongly in favour of wiping with pledgets of gauze. It is well to employ drainage, although in four successful cases (Platt) it was

[1] Transactions of the Association of American Physicians, 1891, vol. vi.
[2] Complications and Sequelæ of Typhoid Fever.
[3] THE LANCET, Feb. 25th, 1899, p. 505.
[4] Brit. Med. Jour., May 6th, 1899.
[5] Ibid.
[6] Johns Hopkins Bulletin, July, 1897.



A chart to illustrate the temperature of the patient in Dr. Hawkins's and Mr. E. O. Thurston's case of "Typhoid Fever of Unusual Duration." The dose of anti-streptococcic serum, the administration of which was commenced on Dec. 7th, 1898, and continued for 11 days, was 5 cubic centimetres; the figure 5 has been made like an "8" in the illustration.

not used. In the after-treatment of this case the subcutaneous saline injections proved of great value on the third and fourth days after the operation when the condition was critical. We are indebted for the notes of the case to Mr. Harris, the clinical clerk.

A girl, aged 11 years, was admitted into St. Thomas's Hospital on Oct. 14th, 1898. On Oct. 9th she was said to have had some shivering followed by a feeling of heat with pains in the limbs, but she had been ailing for some days before this with diarrhœa and a little nocturnal delirium. On admission she was noticed to be a well-nourished girl with flushed cheeks. She was brighter and more cheerful than is commonly the case at about the tenth day of typhoid fever. Widal's test gave a negative reaction and the diazo-reaction was doubtful. The tongue (though not dry) was thickly furred, the abdomen was somewhat distended, and the spleen could be felt. No characteristic spots were seen. During the first five days after admission the temperature remained steady between 102° and 103° F. It then began to fall with a large daily variation, but on Oct. 27th the fall ceased and a fresh accession of fever set in. Widal's test still gave a negative result. Nov. 13th found her in good condition. The bowels had tended towards constipation throughout, enemata being necessary from time to time. The temperature, which often reached 104° and sometimes 105°, showed a large daily oscillation. The spleen was considerably enlarged, one doubtful spot was noted, the abdomen was slightly distended, and the tongue was thickly furred but not dry. The pulse varied between 100 and 114. The patient was taking milk well, no stimulant had so far been necessary, and up to this point all appearances were favourable. At 1 A.M. on Nov. 13th, the forty-first day of the illness, she was seized with pains in the abdomen and was sick, while the bowels acted freely. The pulse was 108 and the temperature was 103·4°. Nothing abnormal was found on examination of the abdomen and the patient fell asleep. At 3.30 A.M. another attack of pain occurred, but there was no alteration in the condition of the abdomen beyond slight impairment of the respiratory movement, and there was no diminution in the area of hepatic dulness. Hot fomentations gave great relief, but at 6.45 A.M. the pain recurred, the pulse-rate rose to 120, and the temperature to 105°. At mid-day vomiting set in, a little dulness appeared in the flanks and the face began to alter; the pulse was 140, and the abdomen was more rigid though not distended, while the hepatic dulness remained unaltered. Permission to operate was obtained with great difficulty, so that the abdomen was not explored until 4 P.M., some 15 hours after the occurrence of perforation. The patient being anæsthetised with chloroform a four-inch incision was made in the middle line below the umbilicus. On opening the peritoneal cavity a large quantity of sero-purulent fluid and lymph escaped, which had a faint fæcal odour. The cæcum was brought to the surface with the idea of using it as a guide to the lower end of the ileum, the most frequent site of perforation, and a perforation was at once found on the anterior cæcal wall. The orifice was about one-eighth of an inch in diameter; it was surrounded by a zone of indurated tissue, and through it a little gas was escaping. A thin layer from the margin of the aperture was excised. It was then closed by a row of Lembert sutures, which produced good inversion of the edges, and a few reinforcing sutures were also passed. The abdomen was thoroughly irrigated with sterilised water and was then mopped out with marine sponges, special care being taken to cleanse the pelvis and lumbar hollows. The intestines were slightly distended, but no thinned areas were seen and it was not thought advisable to prolong the operation by a lengthy search for a possible second perforation. A rubber drainage-tube was inserted into the pelvis, a smaller one into the right loin, and a gauze-drain was passed superficially upwards. The wound was closed with silkworm-gut sutures. The duration of the operation was 25 minutes. The pulse failed slightly towards the end. The patient was given morphia hypodermically and she slept throughout the night. Nutrient enemata, each containing a drachm of brandy, were administered every two hours. On Nov. 14th her general condition was fairly good. The abdomen was flat and resonant and respiratory movement seemed unimpaired. A fair quantity of sero-purulent fluid had escaped and a gauze-drain was introduced down the pelvic tube. Small quantities of milk and beef-tea were given alternately by the mouth. On Nov. 15th the discharge was less in amount but more purulent and offensive. The abdomen remained unchanged but the patient vomited twice after taking milk. On Nov. 16th she had paroxysmal attacks of abdominal pain and the abdomen became somewhat distended above the umbilicus and moved less freely below. The amount of discharge was unaltered. The gauze-drain was removed, the lumbar drainage-tube was replaced by a strip of gauze, and the pelvic tube was changed for a smaller one. On Nov. 17th the abdominal pain became severe. The child was frequently sick, the abdomen became distended and tender, the discharge was serous and increased in amount, the pulse-rate rose to 146, the bowels acted five times, and her general condition was grave. On two occasions 60 cubic centimetres of normal saline solution were injected subcutaneously. On Nov. 18th the general and local conditions showed improvement. The pelvic tube was replaced by a gauze-drain. A few days later all anxiety as regards the peritoneal trouble was at an end. Rectal feeding was entirely discontinued, sufficient food being taken by the mouth. A parotid bubo on the right side now made its appearance and an abscess developed in the buttock at the site of an injection of saline fluid; the abdominal wound gaped widely and showed no signs of repair. The temperature was steady, between 102° and 103°, and the bowels were loose. On Nov. 26th the bubo and the abscess in the buttock were opened and the abdominal wound was re-sutured. On Dec. 2nd the patient complained of pain and tenderness in the right femur, but no swelling could be detected. On Dec. 4th a double otitis media supervened. On Dec. 7th the pain in the thigh had ceased, but there was effusion into the left knee-joint with pain and tenderness, followed on the next day by a similar condition of the right knee. A daily dose of five cubic centimetres of anti-streptococcic serum was injected on the next 11 days and during this period there was great improvement in the general and local conditions. The bubo and the abscess disappeared, the abdominal wound began to heal, the knee-joints became normal, the discharge from the ears gradually ceased, and the temperature fell to normal. The knee trouble was probably of septic origin and was not an instance of the specific typhoid arthritis described by Keen. For the next 24 days the patient slowly improved and there was no ground for anxiety. But the temperature, though always normal at some time of the day, was generally 99° or 100° in the evening and the tongue never became quite clean. On Jan. 12th, 1899, a definite relapse set in which lasted 14 days. Widal's test now for the first time gave a positive reaction and the spleen again became enlarged. The abdomen was somewhat distended, the tongue was furred, and the temperature at the height of the relapse reached to from 103° to 104°. On Jan. 26th the temperature became normal and real convalescence began. The patient is now—a year from the onset of her illness—fat and well, and she presents no sign of abdominal disease.

THE TEMPERANCE FALLACY.

BY G. ARCHDALL REID, M.B. EDIN.

PROFESSOR G. SIMS WOODHEAD'S kind and complimentary, though somewhat hostile, address, delivered before the Society for the Study and Cure of Inebriety and published in THE LANCET of July 29th, 1899 (pp. 259, 260), furnishes me with a reason or excuse for re-stating my views on the alcohol question. I do so the more readily as it is clear that I have not as yet made myself understood. Professor Woodhead attributes to me opinions the exact opposite of those which I really hold, and since in this he is in company with most of my critics the fault is probably mine. I hope that on the present occasion I shall be more successful in explaining myself. The pity is, however, that I must discuss problems of heredity, for on them hinges the whole question of temperance reform, and heredity is an abstruse subject by no means easy of lucid statement.

All the problems of heredity in the last analysis are problems of physiology, an essentially medical science. It follows that all physiologists—that is, all medical men—should be authorities on heredity. Nevertheless no text-book of physiology discusses the question; the professors of physiology in their lectures and public utterances usually

display grievous ignorance of it; and though most medical men are sufficiently dogmatic on the subject, few seem aware even that the particular problem of heredity of which they speak with so much certitude has been the object of a prolonged investigation which tells overwhelmingly against the opinions which they hold. That particular problem is the question as to whether traits acquired by the parent are transmissible to the child. It is easy to demonstrate the importance of it to our profession. Suppose a man pursues a course of life which makes him strong and healthy, do his children benefit through heredity? Suppose he subsequently falls into ill health, are his later children any the worse? To descend into particulars, suppose a man who is free from disease has children, and thereafter develops gout or phthisis, are his children subsequently born more liable to gout or phthisis than are the others? Again, suppose a man leads an active physical or intellectual life, do his children benefit? Are they damaged by reverse conditions? Yet again—and here we reach the kernel of our inquiry—suppose a man leads a sober and temperate life, are his children more prone to be sober and temperate? If he subsequently becomes drunken are his children born thereafter more liable to drunkenness than they would otherwise have been or than are the former children? In other words, in all these cases does the parental acquirement tend to reappear as an inborn or congenital peculiarity in the child? Nearly all medical men will answer in the affirmative. They voice the popular opinion and as yet they know nothing more on this subject than does the man in the street. It does not form part of the curriculum at the schools. Nearly all real students of the question, however, will answer the question in the negative. They know that a fierce controversy concerning it has raged for many years and that though the whole plant and animal kingdoms have been ransacked no single instance of the transmission of an acquirement has yet been proved.

Lately, an eminent physiologist argued that questions of heredity were questions of biology, not of physiology. Presumably he did not consider his science a branch of biology. I fancy that by the latter term he meant zoology and botany. But if, as he and most physiologists assert, acquirements are transmissible, the *how* of this transmission is a question of physiology. For example, if a blacksmith by labour enlarges his muscles and this peculiarity so affects his child that as a consequence it has muscles larger than it would otherwise have had, the how, the way, the means, the method by which this transmission is brought about is strictly a physiological question. I cannot imagine what it has to do with botany or zoology—except, indeed, as a question of animal physiology. If, however, it be maintained that medical men in general and physiologists in particular are not concerned with problems of heredity, is it not high time that we ceased to prate about them as we constantly do? No longer should we talk of heredity in connexion with health and disease, in connexion with modes of life, or rheumatism, or gout, or tuberculosis, or syphilis, or alcoholism. These questions should be left entirely for the consideration of "biologists," to be dealt with when they have the time.

I cannot endorse this view. It seems to me manifest that questions of heredity, by whomsoever studied, are purely questions of physiology. No plant or animal has been so closely studied as man. In him, therefore, if anywhere, we should seek the solution of a problem which has long agitated the world of science. Medical men have missed a great opportunity. By right of our superior knowledge we should have played a leading part in the most important scientific controversy of modern times—the late, nay, the present controversy concerning the alleged transmission of acquired traits—a controversy of unexampled importance, not only to the medical man, but to all classes of the community as well, to parents, to breeders of plants and animals, to educationalists, to philosophers, to temperance and moral reformers, to statesmen, and to sociologists. We have not followed even at the heels of "biologists." Our ideas of heredity are not more advanced than those which prevailed in the days of the patriarchs.

Before considering the point at issue let us make sure that we know precisely what is meant by the term "transmission," and that we clearly grasp the distinction between the acquired and the inborn. We shall thus avoid the confusion which vitiates the writings of most medical authors on the subject. An acquired character may be defined as one which results from the action of the environment on the soma—the body-cells as distinguished from the germs. Thus all characters which result from exercise—the growth of the limbs, for instance—are acquirements, as are all changes induced by disease or other agencies. As regards the mind, all which dwells within the memory—all the separate words of a language, for instance—are acquirements. Technically an acquirement is termed a "modification." An inborn trait, on the other hand, is one which results in an organism from the constitution of the germ-cell (or pair of cells) whence the organism sprang. Thus a man's limbs, his heart, his nose, &c., are inborn traits. They arise because his germ is so constituted that, under fit conditions of shelter, nutrition, &c., it tends to proliferate into an organism having those peculiarities. Now, though every organism tends to reproduce its like, this is true within limits only, for offspring invariably differ somewhat from the parents. Such differences, when they depend on differences in the constitution of the germs whence the parent and child sprang, are technically termed "variations."

New characters are, therefore, either modifications or variations. Variations, like all other inborn characters, are admittedly transmissible; but, as I say, the majority of those who have given scientific attention to the question deny the transmissibility of modifications. It is not as yet known for certain how variations arise. Many theories have been enunciated, but I need discuss none of them except the doctrine that the parent's acquirements tend so to alter his or her germs as to induce similar variations in the offspring which spring from the germs. This hypothesis is, of course, that which affirms the transmission of acquired characters. It is important to note that an acquirement, if transmitted, would cause in the offspring, not another acquirement—i.e., modification—but an inborn trait—i.e., variation—since the latter would be due to a change in the germ-plasm. The only case in which an acquirement could be transmitted *as an acquirement* would be when a modification *in a mother* so affected her *fœtus* that a similar modification arose in it. In that case the modification, if again transmitted, would appear as a variation in the third generation. Obviously male parents can transmit modifications only as variations.

The body is compounded of cells. No single cell is the offspring of any other co-existing cell or group of cells; but every cell is derived from a pre-existing cell. *Omnis cellula e cellulâ.* The body is, in fact, a cell community all the members of which have descended from a common ancestor, the fertilised ovum. For the purpose of our inquiry cells are separable into two distinct classes, the somatic cells and the germ cells. Now suppose a man acquires a character—suppose, for instance, that he enlarges his arm muscles by exercise, or by some injury to his brain caused by disease or drink or accident he acquires epilepsy—then, if his modification is to be transmitted, his arm or brain cells, situated far distant from his germs, must so influence the latter, must so alter the constitution of their plasm, that the children into whom they proliferate long after separation from the parent organism have, inborn, the particular character which the parent acquired. Surely this consideration renders quite unbelievable the hypothesis that acquired characters are inherited? By what machinery is the alteration in the germ-plasm brought about? It must be remembered, though medical men seem generally to forget, that a child is not derived from the whole of his parent's body. He develops out of a very minute portion of it only—the germ-cell. His eyes are not the offspring of his parent's eyes; his legs have not origin in his parent's legs; his brain is not descended from his parent's brain; but every portion is derived solely from the germ-cell, which, so far as we know, is indebted to the body-cells for shelter and nutrition only. Again, it must be remembered that in the germ there are no tissues similar to those in the parent—no muscle, bone, or nerve-cells, for instance. It is vain to argue that the potentiality of them is present; the fact remains that they are not there. They only arise much later in the very remote cell descendants of the germ. Yet, again, it must be remembered that it is not asserted by any one that acquired modifications do not influence the germs.[1] It is only asserted that there is absolutely no evidence that changes in the soma influence germ-cells in such a *particular*

[1] On the contrary, we know as a fact that some germ-cells at least are capable of being altered by changes in their environment. The bacteria of disease, as unicellular organisms capable of continuing the race, are all germ-cells. Bacteriologists continually alter them by changing their environments.

and unlikely direction that the modification of the parent is transmuted through heredity into a variation in the child. For instance, it is not asserted that changes in the brain may not influence the germ in any one of a million or a billion possible directions; it is only asserted that they do not, except perhaps as a coincidence so rare that no instance of it has ever been found, influence the germ in the particular direction which is meant when the transmission of an acquired character is maintained. Lastly, it must be remembered that when some external agency finds entrance into the body and acts directly on the germ it is not asserted by anyone that the germ is incapable of being modified by it. Thus, it is not asserted that alcohol or the toxins of disease when present in the parent's blood do not influence the germ. It is very probable that they do. It is only asserted that external agencies do not, except again as a coincidence so rare that no instance is known, so influence the germs that the offspring arising from them have inborn the modifications which the agency caused in the parent. For instance, experience of some diseases gives rise in a man to acquired immunity—i.e., a great increase of resisting power; but it is denied that his germs are so affected by the toxins in his blood that his children as a consequence develop a resisting power greater than they would otherwise have had. It would be very extraordinary if they did. Such a variation in the child would imply a very delicate and peculiar alteration of the germ, and there is no reason known why that particular alteration should arise, rather than any one of a million other possible alterations—say a taste for blue china or for chocolate, or a diminished liver or an enlarged toe. It will be observed that this last question, strictly speaking, is not a problem of heredity at all. Nothing is supposed to be transmitted from the parent to the child. On the contrary, it is an external agency which is supposed to affect both the parent organism and its germs—the latter in a highly particular way. It is obviously necessary, however, to discuss it, for if the germs were so affected, then, since variations are transmissible, the consequent variation would tend to be transmitted to future generations. I should add that though it is not denied that modifications of the parent or external agencies circulating in the blood may so alter the germs that the offspring arising from them are also altered in this or that *other* way, yet no instance of such an alteration has been traced, at any rate in the higher animals. The complexity of the high animal body, the multitude of its characters, renders such tracing of cause and effect impossible.

I hope I shall not be thought unduly prolix in the foregoing. I am addressing medical men, and the vagueness and inaccuracy of medical opinions on heredity have compelled me to a more or less detailed statement. I have had a somewhat bitter experience. For instance, the question of heredity was discussed in the Physiological Section of the British Medical Association when it met lately at Portsmouth. My principal critic maintained that acquired traits *must* be transmissible *because all new characters are acquirements* and many new characters are known to be transmissible. Apparently he had never heard of the distinction between modifications and variations. In the Psychological Section the question of heredity was also discussed. Here my chief critic,[2] after prefacing his observations with the remark that "it was difficult to grasp the significance of the term 'hereditary transmission' without a clear and correct conception of the mechanism of heredity," stated that "persons of comparatively sober habits might at rare intervals—e.g., on the occasion of a wedding or other festivity—take more alcohol than was good for them, and an embrace given in a moment of temporary drunkenness might thus prove prejudicial to the offspring begotten under such circumstances." The spermatozoon is a free parasitic organism when residing in the seminal vesicle. My critic apparently thought, for reasons unknown to me and unknown I am sure to most students of heredity, that the moment when this unicellular animal enters the male passage is precisely the instant when it can be most modified in a highly peculiar direction by an external influence operating on its parent and on itself.[3] It would be interesting to know on what evidence he founded his opinion. He mentioned no observations, experiments, or statistics, and in the absence of these I protest that his ideas of heredity seem to me to be founded, not on sober science, but on a belief in magic.

It is apparent that we should accept the doctrine of the transmission of acquired characters only with the greatest caution. It is so very unlikely that, in common with other unlikely things, only the clearest evidence should satisfy us. Has this evidence been furnished? It has been sought far and wide. Many of the acutest intellects in the world have given it unremitting attention. But, as I have said before, though the whole plant and animal kingdoms have been ransacked, no single instance of the transmission of an acquired character has yet been proved. The doctrine of such transmission is, in fact, a wildly improbable assumption, founded wholly on *a priori* considerations and unsupported by a solitary fact—a single concrete piece of evidence. Yet to this doctrine most medical men give most unquestioning adherence, notwithstanding the fact that their own sciences furnish proof against it far more massive than any which is accessible to botanists and zoologists. Consider the evidence from physiology. The extra development of the blacksmith's arm is rightly called an acquired trait since it results from exercise and use, not from germinal conditions. But no infant's arm develops into an adult's arm without stimulation similar in kind though less in degree. Therefore all that separates the infantile from the adult arm is acquired. The same is true of most of the other structures of the body, all of which do not develop except under the strain of use. How vast, then, are man's physical acquirements, yet when are any of them transmitted? Every infant has to make afresh under similar stimulations the modifications which its parent so laboriously acquired. If it be argued that exercise and use increase, not only the individual's acquirements, but also his power of making them, and that it is the latter which is transmitted, I have only to reply that here is a manifest error. In the passage from infancy to old age the power of making acquirement constantly declines. In the infant it is at a maximum, hence his development into adult man. In the old man it is at a minimum; it is almost lost; therefore, since nothing in this case is acquired, nothing can be transmitted. The same arguments apply to mind. At birth the infant's mind is a blank. His subsequent mental acquirements are immense. Every single thing contained within the memory of adult man, every single word of a language for instance, is a separate acquirement. But when are the contents of the parent's memory transmitted to the child?

Turn now to the evidence afforded by pathology. When is acquired immunity against disease, a change affecting the whole body, ever transmitted? In syphilis, says my medical reader. But will he prove that so-called "congenital" immunity to syphilis depends on germinal changes, not on a fresh acquirement by the fœtus? When are the modifications caused by disease and accident transmitted? Many cases are known, says my surgical reader. If they are one can be proved. Will he prove it? The fact is that medical attempts to prove the transmission of acquirements have generally demonstrated nothing more than an insufficient acquaintance with the conditions of the problem, or in some cases the most distinguished powers for confused thought. Hæmophilia and supernumerary digits have been instanced, but no attempt has been made to prove that these peculiarities are ever acquirements. As a matter of fact they always begin in the race as variations. The beard even has been instanced merely because it arises late in life. Brown-Séquard's epileptic guinea-pigs have been much relied on; but guinea-pigs have been proved to be very liable to epilepsy in the absence of parental injury. Most commonly arguments turn on the supposed transmission of mutilations and maternal impressions, but the element of coincidence is rarely thought of. In a million cases the parent's mutilations and impressions are plainly not transmitted, though the children vary otherwise in a billion ways. In the millionth-and-one case something appears in the child that more or less faintly resembles the parent's peculiarity; thereupon the transmission of an acquirement is triumphantly proclaimed. I daresay I shall be thought dogmatic and even arrogant in what I have written, but even if by such means I can awaken professional interest in this great matter I shall have done a work worth the doing and shall not greatly care.

[2] THE LANCET, August 12th, 1899, p. 452.

[3] I do not know that it greatly matters, but it is perhaps worth mentioning that the union of the sperm with the ovum does not take place till a later date. During the embrace the sperm merely passes from one environment, the male body, to another very similar one, the female body.

There is practical agreement that all the races of mankind sprang from a common stock. If that be admitted it matters not what the original stock was—Adam and Eve or a species of lower animal. In the course of ages the various races have diverged vastly and in a multitude of ways. There are big races and small, white races and black, races which are highly resistant to this or that disease and races which are less resistant, races which are prone to excessive indulgence in alcohol or in opium and races which are much more temperate. The differences are endless and can have arisen only through the transmission and accentuation through generations of inborn variations, or of acquired modifications, or of both. Even if we suppose that the Deity predestined and directed the evolution the course of it must yet have been on these lines. It is admitted on all hands that variations are transmissible and therefore everyone must admit that human, as distinguished from pre-human, evolution must be due in part at least to their accentuation. It is affirmed by most medical men, but denied by the mass of those acquainted with the facts, that acquired modifications are transmissible. Human evolution being admitted, it follows that controversy can only arise as to what part in it acquired modifications have played. As medical men we are not directly concerned with racial alterations in shape or colour and so forth. To us belongs especially the consideration of racial alterations in relation to disease or to potent and lethal narcotics like alcohol and opium. In the case of disease one fact of high importance at once rises into view. All races which have long been afflicted by any prevalent and deadly zymotic disease are proportionately more resistant to it than races which have been less afflicted or not at all afflicted. Thus Englishmen are more resistant to tuberculosis than the natives of India, who in turn are more resistant to it than West African negroes. The last, on the other hand, are more resistant to malaria than Hindustanis and infinitely more so than Englishmen. It is invariably argued by medical men that the increased resisting power to disease which racial experience confers is due to the transmission of acquired immunity. The one generation, it is supposed, acquires immunity and transmits some part of it to the next, which, starting from a position of comparative advantage, again acquires immunity and transmits still more resisting power.

On the other hand, diseases are plainly selective in their action; that is, individuals vary as regards their inborn power of resistance to this or that disease. For example, some people take scarlet fever and perish, their inborn resisting power being low. Others of higher resisting power take the disease but recover—i.e., they acquire immunity. Yet others are congenitally so resistant, that they escape infection altogether. It is a known fact that offspring tend to inherit the inborn peculiarities of their parents and in particular that the children of parents weak or strong against any given disease tend to exhibit a like peculiarity. Now, there are some diseases against which immunity cannot be acquired, but against which there has been considerable evolution. Tuberculosis is an example. The English, who have long been weeded out by that disease, are able to persist in the face of it even when the conditions are most unfavourable—e.g., in large cities—whereas Polynesians and Australasians are exterminated by it under conditions much less onerous. It follows that evolution against disease is possible through the transmission and accumulation of inborn variations alone. In other words, in such cases the evolution is due solely to natural selection. Contrasting with tuberculosis, there are some diseases which, though prevalent, are not deadly. Nearly everyone in the community is afflicted by them and nearly everyone recovers and acquires lasting immunity. Chicken-pox is an instance. In this case, there being no elimination of the unfit, there can be no natural selection of the fit; evolution, therefore, cannot proceed on lines of inborn variations, but, if it occurs, must result solely from the transmission of the acquired immunity. It is highly significant, nay it is conclusive, that no evolution of resisting power occurs in such cases. Races which have for untold ages suffered from chicken-pox are as susceptible to it and suffer as much from it as do races to which it has been newly introduced. It appears, therefore, that evolution against a disease occurs only when the latter is the cause of a considerable death-rate—a positive proof that acquired resisting powers are not transmissible. But if acquired immunity, a profound physiological change which affects the whole body, is not transmissible, what likelihood is there that those lesser and merely local effects of disease which the profession is continually instancing are so.[4]

Almost without exception medical men believe that the acquired effects of alcoholism are transmissible. It is easy, however, to demonstrate that this is just one of those hoary superstitions which have currency only because they have never been questioned. The physical effects of intemperance, the diseases produced by it, are important, but the principal effect is a mental one without which the physical effects could not arise, for no one would drink. Indulgence in alcohol awakens in the drinker the craving for it. It is said that this craving for drink is transmissible. The term, however, is used in an exceedingly loose way and leads to endless confusion. It is necessary, therefore, to define our meaning precisely. Before a man can crave for drink he must first of all have a mind so constituted that drinking is, or may become through indulgence, delightful to him. This capacity for enjoying alcohol is clearly inborn and transmissible. Secondly, no man can crave for drink except he has had personal experience of it and has thus learnt the sensations which it awakens. This knowledge is an acquirement and is as clearly not transmissible, since no man can remember the sensations which drink aroused in his father before he was born. Strictly speaking, therefore, the craving for drink is not transmissible. But within limits indulgence in drink increases the capacity for enjoying alcohol and therefore the craving for it. In other words, the more a man drinks the more within limits does he crave for drink. The limits vary immensely with different individuals. Prolonged experience of alcohol increases but little, if at all, the capacity of some men for enjoying it. Such men never crave for deep indulgence and are sober all their lives. In other men continued experience begets a considerable increase of the capacity for enjoying alcohol. They crave more and more strongly for deeper indulgence and eventually, unless saved by lack of opportunity or the exercise of strenuous will-power, they become drunkards. We have, therefore, as factors of the drink crave, first, the drunkard's inborn capacity for indulging in alcohol; secondly, his acquired increase in this capacity; and, thirdly, his recollection of the sensations drunkenness induces. Now, when transmission of the drink crave is spoken of I take it that transmission of the second factor is generally meant. It is supposed that the father's drinking increases his capacity for enjoying drink and that this so affects his subsequent children that they have inborn a capacity for enjoying alcohol (or a faculty for acquiring that capacity) greater than would otherwise have been developed. In other words, it is supposed that the parent's drinking increases the child's proneness to drunkenness. If this be true it is a fact of momentous importance. In that case not only is it the single instance of the transmission of an acquired trait known to science, but more tremendous issues hang on it. On it depends the whole question of temperance reform. If it be true, all the methods commonly advocated by reformers are certainly right; but if it be not true—if the parent's drinking does not increase the child's proneness to drunkenness—then, not only does this fact fall into line with all the rest known to us of heredity, but it can be shown that every scheme of temperance reform hitherto propounded—prohibition, local veto, the Gothenburg system, &c.—is in effect *a scheme for the ultimate promotion of drunkenness.*

Temperance reformers, including many industrious members of our profession, have compiled voluminous statistics proving that drunken parents tend to have drunken children, and have argued thence that the parent's drinking tends to increase the child's liability to drunkenness. The industry has been wasted. *Post hoc* has been confused with *propter hoc*. If I like peaches, is it because my father *ate* peaches? No sane man doubts that children tend to inherit the inborn peculiarities of their parents. A big man tends to have big children, a fair man tends to have fair children. The voluminous statistics prove only that a parent prone to

[4] Evolution against disease is a matter of enormous importance both from the political and the scientific points of view, but it cannot be dealt with adequately here. Consider, however, that we cannot colonise, but can only conquer countries where virulent malaria is present. The natives who have long suffered elimination persist, but our death-rate is such places is balanced, not by birth-rate, but by fresh immigration. To the New World, in places undefended by virulent malaria, we go as colonists. Our diseases, which have been hitherto unknown to the native inhabitants, exterminate them and we enter into their inheritance. To South Africa, where virulent malaria is unknown, we go as colonists, but the natives are not exterminated, for they also have suffered for ages from our diseases. We must therefore share the land with them. (Vide, The Present Evolution of Man, pp. 199 to 306.)

drunkenness tends to have children with a similar peculiarity, they do not prove that the parent's *drinking* increases the child's capacity for delighting in drink, and therefore his proneness to drunkenness. This could only be done and all sources of error eliminated by proving that nations hitherto without knowledge of alcohol are comparatively temperate when first introduced to abundant supplies of it, but become increasingly drunken as their experience is prolonged, the son inheriting the parental capacity for enjoying alcohol *plus* the increment due to parental indulgence, the grandson inheriting this *plus* a further increment caused by the drinking of the son, and so on. It is evident, since alcohol is a lethal agent, that such a process would at length exterminate the race.

But quite apart from the circumstance that it is wildly improbable that a change in the parent's mind—i.e., an increased delight in drink—can so affect his germ (situated far distant from the seat of his mind, the brain) that the child arising from it has inborn, long after the particular change which the parent acquired, or on the other hand quite apart from the circumstance that it is equally improbable that alcohol circulating in the parent's blood can change his germ in this particular manner rather than in any one of a million or billion others possible,—quite apart, I say, from all this, what are the concrete facts? All races which have had little or no experience of alcohol are excessively drunken when introduced to concentrated modern forms of it—so drunken that, given the opportunity, they drink to extinction—for example, the whole of the native inhabitants of America from Terra del Fuego to the Arctic Circle, the inhabitants of the rest of the Arctic Circle, the inhabitants of Polynesia, Micronesia, and Australasia, the natives of New Guinea and of the Andamans, and certain primitive tribes of Africa and Asia. All races on earth which are now temperate in spite of an abundant supply of alcohol were anciently drunken, but have for centuries—nay, in the case of the most temperate, for thousands of years—been afflicted by an abundant supply of that poison—e.g., Jews, Greeks, South Germans, Italians, South Frenchmen, Spaniards, and Portuguese. Indeed, throughout the world the tendency to excessive indulgence is in inverse proportion to the ancestral experience. The facts concerning opium are similar. That drug has been in use for hundreds of years in India; it has been used for two centuries in China; it was introduced within the memory of living man to Burmah. Witness after witness—in fact, every witness whose official standing or scientific attainments entitled him to attention, Sir John Strachey, Sir George Birdwood, Sir Joseph Fayrer, and many others—declared before the late Royal Commission on Opium that the natives of India never or very rarely take opium in excess. There was general agreement that, though many Chinese were temperate, many perished from over-indulgence. It was agreed on all hands that the Burmans were excessively prone to intemperance in the use of opium—so prone, and as a consequence in such thousands do they perish, that we, the British rulers of the country, are obliged to prohibit the use of opium in Burmah to the Burmans alone, while permitting it to all immigrant races (Chinese, Indian, Malay, &c.), just as in Canada and Australia we are obliged to prohibit the use of alcohol to the natives alone while permitting it to all other races. Two things, then, are positively clear: (1) that the capacity for delighting in alcohol—the alcohol diathesis in which drunkenness has its origin—arose in man quite apart from the use of alcohol, since all races which have had no previous experience of alcohol—e.g., Red Indians, Esquimaux, and Australian blacks—have the diathesis strongly developed; (2) that prolonged use—or rather abuse—of alcohol tends to eliminate the diathesis and render a race more and more innately sober.

How did the diathesis arise? The subject, belonging as it does to zoology rather than to medicine, cannot be discussed at length here.[5] How is the diathesis eliminated? Here we reach the crux of the whole matter. Alcohol, like zymotic disease, is a selective agency which continually eliminates the innately drunken—that is, those who greatly delight in it. Most sober men, and in particular temperance reformers, have a theory very flattering to their self-esteem. They assert that men are temperate or drunken according as they do, or do not, exercise self-control. But let me appeal to my readers, and ask each one whether he is sober because he exercises self-control. Does he say "Yes." Then from the bottom of my heart I pity him. Continually tormented by his unsatisfied craving for drunkenness, he must be a miserable being—a being only one degree less miserable than an actual drunkard. I, most certainly, am not constituted like him. Never in my life have I had to resist the craving for alcohol. I am temperate, not because I resist temptation, but through lack of it. I have not the alcohol diathesis. Unlike him I come of a selected ancestry—an ancestry selected for survival by that potent agent of death, Alcohol. I am sure most sober men are constituted as I am, not as he says he is. They can, as workmen say, "take a glass or leave it." Most people with whom I am brought into social contact are temperate manifestly without effort. A little alcohol satisfies them; more would awaken sensations which, on the whole, are unpleasant. A certain class doubtless would enjoy deeper indulgence; but the craving is not so strong as to balance their dislike to the consequences—the social degradation, the physical and mental evil. A large remainder so delight in alcohol, are so driven to it as by the force of a tempest, that, ignoring the consequences, they seek immediate satisfaction and are drunken. A man with a strong will may resist temptation, as doubtless many abstainers do; but, generally speaking, the will of man, as of all animate creatures, is exercised to gratify, not to resist, his desires. The man with a powerful will and a craving for alcohol is therefore generally drunken. Men differ in size, in strength, in colour, in craving for sexual indulgence, or for tobacco, or for sugar, or for salt. There is no single trait in which they do not vary in degree. So also they vary as regards their craving for alcohol, and that lethal agent weeds out those who have the greatest craving. Their families suffer from neglect and poverty, and their children, if they survive, inherit the diathesis and in turn are poisoned. Statistics compiled by insurance and friendly societies prove conclusively that, from early manhood forwards, the death-rate of drinkers is much higher than that of abstainers, the higher rate arising almost solely from the excesses of deep drinkers who are smuggled into the societies or become drunken after entrance. Now surely it is evident that a race from which the alcohol diathesis is weeded out must change, must differ from what it would be in the absence of that process of elimination. Surely it is significant that all the sober races of the present time were anciently drunken — Greeks, Italians, South Germans, &c.; that all races recently introduced to alcohol are now excessively drunken; that every race is now temperate in proportion to its past experience of alcohol; that while the lethal narcotics alcohol and opium have been causes of evolution the non-lethal narcotic nicotine—like chicken-pox—has been the cause of no evolution; for races that have longest used tobacco crave as much for it as those to which it has been newly introduced. In his address Professor Sims Woodhead assumed that Red Indians were drunken because alcohol took from them their self-control. The author of another hostile address, writing to me privately, is of the opinion that they were drunken because alcohol raised them to the seventh heaven. I do not quite see what bearing these arguments have on my contention. The amount of alcohol that is pleasant to me does not cause me to lose my self-control or raise me to the seventh heaven and for that reason I am not weeded out by the practically unlimited supplies I can command. Under similar conditions the Red Indians, losing their self-control because they are lifted to the seventh heaven by alcohol, are weeded out. My contention is that the temperate nations are composed mainly of individuals like myself, whereas drunken nations are composed mainly of individuals like the Red Indians. A favourite notion is that the environment — particularly education — influences drunkenness. No doubt it does. Under happy conditions and proper teaching men are doubtless less drunken than under worse conditions and teachings. But I take it that such conditions do not on the whole weigh much in the balance. It must be remembered that no amount of education can change a pleasant sensation—say a taste for salt, or for tobacco, or for alcohol—into an unpleasant one. In England the better classes, with greater opportunities for drunkenness, are more temperate than the lower who have lesser opportunities. But I am not aware that the better classes seek pleasure less eagerly than the lower. It is, however, a fact that the better classes, speaking generally, have descended from the better classes of former times, who, having more purchasing power, have

[5] Vide The Present Evolution of Man, p. 327.

been more thoroughly weeded out by drink than the lower.[6]

Many theories other than the above have been advanced to account for racial differences with respect to drunkenness. Climate—but all savages from the North to the South Pole are drunken, whereas Jews in all climates are sober. The worries of civilisation—but South Europeans are more civilised and more temperate than savages. Absence of civilisation—but North Europeans are more civilised and more drunken than South Europeans. Strength of beverages—but savages, who are unable to manufacture alcohol or can manufacture it in very dilute solutions only, when they have the opportunity, are conspicuously more drunken than North Europeans. Parental or ancestral drunkenness—but savages, whose parents and ancestors never had any drink, are the most drunken of all. Education—what is there in the education of South Europeans and Jews which renders them so superior in this particular to North Europeans? Temperament—but how did differences in temperament arise if not through evolution? Advance what other hypothesis one will and there are numerous exceptions. This theory of alcoholic evolution, which is in accordance with all we know of evolution under natural and artificial conditions, alone covers all the instances. Surely, then, there is no escape from the conclusion that all races which are temperate have become so through evolution—through the elimination of the unfit, the innately drunken.

It seems, then, that there are two schemes for the promotion of sobriety in operation. Firstly, there is what we may call Nature's method, the elimination of the excessive drinker. Secondly, there is the temperance reformer's method, the elimination of drink. The two methods are plainly antagonistic, the operation of the one putting the other in abeyance. The question, then, is, which method ought we to adopt? which is the most practical? which offers the most certain and easy success? I am afraid that few will as yet agree with me when I say that Nature's plan is the better, the more practical, the least productive of misery. But when medical men "have a clear and correct conception of the mechanism of heredity" more of my brethren will agree with me. All races which alcohol has afflicted have plainly undergone protective evolution. They began their experience with a great proneness to drunkenness, but have ended with a lesser proneness. But a race which has undergone evolution does not stand still when the eliminating agent which caused the evolution is withdrawn. It reverts with a rapidity, which is proportionate to the rapidity of the previous evolution, to the ancestral type. Thus, if we cease to breed racehorses carefully—i.e., if we cease to eliminate the unfit—they revert rapidly to the original type, the ordinary horse. The same is true of all other prize breeds of animals—e.g., dogs, cattle, pigs, pigeons, poultry, &c. All garden plants, also, which have undergone rapid evolution under artificial selection—e.g., the rose, the apple, the pear, the peach, the cherry, the pansy, &c.—in the absence of selection swiftly revert to the wild variety.[7] If, therefore, total prohibition, the reformer's ideal, were enforced and drinkers no longer eliminated, a race which had undergone alcoholic evolution would degenerate towards the ancestral type and become increasingly prone to drunkenness.[8] If the prohibition were continued long enough that primitive condition would be reproduced when the proneness to drunkenness was as great as it is among some modern savages—e.g., Red Indians and Australian blacks—who have never commanded an appreciable supply of alcohol. Now alcoholic evolution is possible to primitive peoples only when the supply of alcohol is scanty and dilute, as judging by the analogy of modern savages it must have been in the ancient world. With the strong and plentiful alcohol of modern civilisation the death-rate of primitive peoples becomes so large that they undergo, not evolution, but extinction, as has happened times and again in the Western Hemisphere. To be beneficial, therefore, prohibition must be eternal. It must endure as long as the human race endures. Temporary prohibition can result ultimately in great disaster, in greatly increased drunkenness, only. In the face of an increasing capacity for enjoying drink how could we secure this immortal permanence for a mortal law? What guarantee is there that a future generation of alcoholic degenerates would not repeal it? It is possible that in England, where the majority do not now crave greatly for alcohol, but where much misery is inflicted by it on the minority, a self-denying law enforcing prohibition might be passed. But in the grape countries, where the evolution has been greater, little misery is now inflicted; wine is there used almost solely as a beverage, not as an intoxicant. It is highly improbable that such races will ever pass a self-denying ordinance merely to benefit foreigners. Under such conditions how shall we prevent our thousands of travellers and sailors from acquiring the craving, and seeking means of gratifying it at home. If nothing else can be got men will drink methylated spirits. Alcohol is essential to many of our industries, arts, and sciences; must we abandon all of them? Even if prohibition involved the whole world we could not eliminate sugar or the organisms which produce alcohol from solutions of sugar. In other words, the means of production would remain. Anyone who had fruit could manufacture alcohol of intoxicating strength. Total prohibition is therefore impossible as a permanent policy, and, except it be eternally permanent, is worse, much worse, than useless. Partial prohibition, enforcing moderation rather than abstinence, is yet more impossible, for abstinence is much easier to the innate drunkard than moderation. It may be argued that total prohibition has as yet been successful with Mahomedans and Buddhists. As yet! We have still to learn the future of those races. I doubt, moreover, whether the most rabid reformer would willingly pay the price for prohibition that Mahomedans and Buddhists have paid. The same influence, religious fanaticism, which has rendered them sober has rendered them barbarous also. By limiting intercourse with more free and enlightened, if more drunken, peoples, and enforcing it by such means as the pouring of molten lead down the throats of the drunken, they have rendered prohibition possible. But who would pay that price? Archbishop Magee's saying occurs to me, "I would rather see England free than sober." We should have to manufacture a new religion which, unlike the Christian, forbids alcohol.

Turn next to the other alternative, the elimination, not of drink, but of the excessive drinker. The difficulties which we have now to face are not imposed by Nature but by man, by what we are pleased to call our "moral" system. We cannot alter human nature by laws or moral codes, but we can alter it by careful selection. How shall we eliminate drunkards? By what method? By poisoning them or permitting them to poison themselves with alcohol? Of course not. By confining drunkards as the insane and lepers are confined? Drunkards are so many that the State could not bear the cost. By forbidding drunkards to marry? It would be futile; drunkenness often develops after marriage. How then? By preventing drunkards reproducing their like—by forbidding the procreation of children by them. If drunkards were taken before magistrates sitting in open or secret session, as the accused preferred, and on conviction were warned that the procreation of children would subject them to this or that penalty—say, three months' imprisonment—the birth-rate of drunkards would certainly fall immensely. Of course, it will be argued that many would escape the meshes of this law. But that is an argument against all laws. This law would be more perfect in its operation than any other, for if the drunken father evaded it in one generation the drunken son will be taken in the next.[9] Of course, also, I shall be told that my suggestion

[6] I hope I have made myself clear, but such has been my experience in the past that I am not particularly sanguine. My view is that alcohol is a lethal agent, that men differ as regards their capacity for enjoying it, that it weeds out most those that enjoy it most and therefore indulge most, leaving the continuance of the race to the more sober, that therefore the longer a *race* drinks the more innately sober does it become through protective evolution. The view commonly attributed to me is that the more a *man* drinks the more sober he grows. My critics naturally think me an idiot. I—well it does not matter what I think of my critics. Most medical men when they think of the subject believe that races grow resistant to disease through the transmission of acquired immunity. Professor Sims Woodhead and others suppose I have applied this erroneous doctrine—which, by the way, I have repudiated many times and with all my might—to alcohol. But it happens that I do not think that drinking makes a man immune—i.e., indifferent to drink. Experience tells me that the more he drinks the more, within limits, is he inclined to drink. Besides, I do not believe in the transmission of acquired characters. This view is therefore the exact opposite of what I actually hold. I am not surprised that Professor Sims Woodhead disagrees with me.

[7] It is impossible to deal at length with the abstruse question of reversion here. The author, however, has done so in his work, "The Present Evolution of Man," pp. 18 to 30 and pp. 48 and 49, and also in a paper read at the Bristol meeting of the British Association and published in Natural Science for December, 1898. To these sources he must refer interested or doubtful readers.

[8] In like manner the negroes of North America must in time lose their powers of resistance against malaria.

[9] I have been told that my proposal is immoral. I am not in the least abashed. It seems to me more immoral to procreate starving and

is impracticable. Certainly it is impracticable at the present time, but only because so many people believe it to be impracticable. Did they think it practicable it would become practicable at once. To-day sanitary reforms are impracticable in Mecca, but must that man be branded as a crank who strives for sanitary reform? Moral ideas change from age to age and we may hope that in some particulars at least the morality of England will undergo radical change.

But suppose it be admitted that my proposals are, and must forever be, impracticable, what then? I can only reply that in that case temperance reform as at present conducted is an enormous blunder. In that case temperance reformers are living on capital. Reversing the maxim attributed to the Jesuits they are doing good that evil may follow. They are seeking our happiness at the expense of the happiness of our children and our children's children through unnumbered generations. Metaphorically speaking, they are striving to breed a long-tailed race of dogs by carefully preserving all the short-tailed individuals and pulling vigorously at their tails. They are seeking to promote temperance by preserving the innately drunken and haling them by moral and legal methods into sobriety. They may achieve temporary success but they cannot possibly be permanently successful, for the use of alcohol cannot be banished from the world and the craving for it—or, to speak more precisely, the constitution of mind to which drunkenness is delightful—would, through reversion, gather head in the race, till, like an obstructed mountain stream, it burst all barriers, when the last state of the race would be worse than the first. "It is surely clear, therefore, that if the world is to become more temperate it must be by the elimination not of drink but of the excessive drinker. If artificial selection be found impracticable in the future, as, owing to the state of public opinion, it undoubtedly is at present, then the only alternative is natural selection, in which case the world will never be thoroughly sober until it has first been thoroughly drunk."

Professor Sims Woodhead argued: "Typhus fever was at one time rife in our squalid population. Now there was a little of it in just that kind of population in which the greatest damage was done by drink. Would they say for a moment that because a population was liable to typhus fever under certain conditions therefore they would take care that all the people took typhus fever in order that the survivors might not be susceptible to that disease?" My critic's argument would be invalid even had I said we should promote drunkenness. Disease and drink stand on a totally different basis. No man craves for disease, and if we banished it no man would strive to bring it back; but many men crave for drink, and did we banish it increasing thousands would strive to bring it back. Moreover, a human prey is essential to the microbes of such diseases as are non-malarial in type. Their normal habitat is in man during at least part of the cycle of their existence, for which reason these diseases are never contracted away from the haunts of men. We may therefore hope by improved sanitation, isolation, &c., to utterly exterminate the microbes and put an end to the disease. But what sane person can hope to exterminate or appreciably diminish the microbes which produce alcohol? Given a sufficient temperature fermentation occurs everywhere, from the tropics to the pole.

Two or three matters more I may allude to. It has been asserted that parental drunkenness tends to cause "nervous instability"—whatever that may mean; these vague terms are the bane of science—in the child which, in turn, leads to epilepsy, insanity, and what not. Now if this be true, then alcohol weeds out the unfit much more rapidly than I supposed and my contention is greatly strengthened. But truth compels me to admit that I have seen no real evidence bearing on this point. Statistics without end I have seen, but the old confusion between *post hoc* and *propter hoc* is ever perpetrated. If it be argued that inebriates very frequently have offspring insane or epileptic I must reply so have non-inebriates. If it be further argued that inebriates have a higher proportion of offspring so afflicted I must retort that it is precisely from those who have a tendency to insanity or epilepsy that one would expect inebriety, and that though this tendency might not find expression in the parent and may result only in drunkenness, yet it is to it, and not to the parental inebriety, that the filial epilepsy or insanity is probably due. Moreover, in these statistics no attempt has been made to differentiate between the effect of alcohol on the germ and its effect on the embryo and the fœtus. Doubtless this is impossible, for mothers drunken before pregnancy are usually drunken during it, and often the fathers are drunken also. Still, unless it be done the statistics are inconclusive. No one doubts that alcohol is a poison. Very probably it does in many cases injure the developing brain of the child, with the result that subsequently epilepsy or insanity may supervene. It injures the mother's nervous structures we know and there is no apparent reason why it should not injure the child's. But this is one thing—it is not a problem of heredity; the effect on the germ of the alcohol circulating in the parent's blood is another thing. That, indeed, is a problem of heredity. If alcohol does so affect the germ that the child is mentally abnormal then here we have a variation, not a modification, as when the fœtus is affected. Variations tend to be transmitted and therefore a race that used alcohol would on that hypothesis become more and more insane and epileptic till it became extinct. I am not aware that South Europeans have become so insane and epileptic as to be threatened with extinction. We must remember that there are no nervous tissues in the germ.

It is said that the drinking of pregnant women predisposes the children to drunkenness. I have no evidence that it does not, but I know of none that it does. I am aware only of a vast amount of guess-work and loose thinking. To me it appears at least doubtful that acts of involuntary drunkenness perpetrated by the embryo or fœtus should predispose it to drunkenness a score or more years after.

The tendency to drunkenness is frequently spoken of as a disease. The term appears to afford satisfaction to the charitable, but it is hardly correct. Otherwise all races which have not been weeded out by alcohol must be held to be diseased—when the paradoxical conclusion is reached that alcohol, which causes the disease, cures it.

Southsea.

neglected children, who, if they survive, will be drunken and will starve and neglect the next generation, than not to procreate them. Moreover, the charge is brought against me by the very people who have rendered poisoning by venereal disease a non-illegal offence. Think of it, here in England at the present day if we poison by means of arsenic or strychnine and death results we are hanged by the neck; or if death does not result we suffer long terms of penal servitude; but if we do our poisoning in a particularly cruel and treacherous way, by venereal disease, we escape scatheless. For instance, it is open to any diseased drab to tempt and poison as many weak and ignorant boys as she can entice. It is open to any scoundrel wilfully and knowingly to poison even to death his innocent bride and the children he may beget on her. Thousands, nay, tens of thousands, of men and women are poisoned thus; thousands, nay, tens of thousands, of innocent children thus perish. We precipitated the great Indian Mutiny by forbidding infanticide in Oude, but of how much vaster proportions is the infanticide in our midst caused by syphilis—a particularly preventable disease.

A CASE OF TETANUS SUCCESSFULLY TREATED WITH ANTITOXIN.

BY JOHN D. RICE, M.B. R.U.I.

ON June 9th, 1899, I was asked to see a boy, aged four and a half years, who had been "biting his tongue at night." On examining him the only pathological lesion which I could find was a stomatitic condition of the tongue and palate. He had no pain, no albumin in his urine, no sore-throat, and no enlarged glands. His temperature was normal. The mouth could be opened to its fullest extent and the tongue protruded for several minutes; there was no risus sardonicus nor apparently any rigidity of the muscles, except on walking, when the movements were rather stiff. The reflexes were exaggerated. The boy took his food well except anything pungent which made him cry owing to the sores in his mouth. I prescribed a calomel aperient and a stomachic. The child on this day went for a walk and complained of no exhaustion or pain except that from the stomatitis. At 10 P.M. I was again sent for as the boy had waked up screaming. His condition had not altered. He had taken bland foods well and remained up till his usual bedtime. He soon fell asleep, but woke up screaming several times that night; his face twitched slightly during sleep. The next morning the boy seemed perfectly normal; he was up and dressed and had taken his breakfast on my arrival and the calomel had acted efficiently. He was up all day and had no screaming fits until about 10 P.M., when he woke as on the previous night. Suspecting worms I gave him a

vermifuge. On the 11th I observed slight stiffness in the masseter and sterno-mastoid muscles; the mouth could not be opened so wide nor would he protrude his tongue, but this was rather from unwillingness than inability. During the day he had no pain except from his mouth when fed and he took milk well. His sleep was disturbed; he woke every hour screaming. I prescribed two grains of chloral hydrate and four grains of bromide of potassium every three hours, but his attendants could not get him to take it satisfactorily. On the morning of the 12th his symptoms were by no means pathognomonic of tetanus, though I warned the parents of its probability, the vermifuge having acted in the meantime with a negative result. On the evening of the same day I saw the boy in a typical tetanic spasm; he had marked opisthotonos, risus sardonicus, extreme retraction of the neck, and was apparently in great pain. At the wish of the parents I sent for Dr. Aldren Turner, who confirmed my diagnosis. Dr. Turner at my request having kindly brought a supply of antitoxin a dose of 10 cubic centimetres was given at 3 P.M. (June 13th). At 9 P.M., the spasms being worse and more frequent, I injected another 10 cubic centimetres, the boy in the meantime having taken the chloride and bromide mixture regularly. On the 14th I was told that he had had a bad night, but that the spasms only occurred when excited by a noise; his condition was markedly tetanic and examination promptly caused a convulsion, so I injected another 10 cubic centimetres of antitoxin, and as there was no improvement in the evening a similar dose was given. On the morning of the 15th, the boy's condition being still precarious, I had him taken to the Eltham Cottage Hospital, partly because the noises from the adjacent road disturbed him and also because some church festivities, with bell-ringing and bands, were due to take place the same evening in a meadow near the house. The journey had no bad effect and no serious spasms occurred; the lad, on the contrary, seemed to enjoy the drive and remarked on various objects passed on the way. His temperature was 99° F. on admission to hospital and his condition during that day was most satisfactory, only the administration of food and medicine invariably caused convulsions. At 9.30 P.M. he was given a further dose of 10 cubic centimetres of antitoxin and a glycerine enema; after the antitoxin injection the convulsions assumed such a serious nature that it was deemed advisable to administer chloroform, under the influence of which he was kept for half an hour. Contrary to expectations the boy had a fairly good night, the spasms being much less severe and shorter than in the evening. On the 16th, at 10.30 A.M., he was given another 10 cubic centimetres of antitoxin as he continued markedly tetanic, great rigidity supervening when he was moved or touched, and in the evening 10 cubic centimetres were also injected. The spasms during that night were very frequent but less lasting than on the previous nights and the boy had taken a fair amount of fluid food as well as the chloral and bromide. On the morning of the 17th he had another injection of 10 cubic centimetres of antitoxin and the same in the evening. The reflexes on this date were extremely exaggerated and on being tested caused a spasm, but this was shorter than on the previous days. To counteract a tendency to constipation two grains of calomel were given in a powder. On the morning of the 18th the boy was decidedly better; he had passed a good night and had no spasms except those excited by an external cause; he could open his mouth a little more and sometimes swallow food without having a spasm; in fact, I think it was the crying on account of the painful condition of his mouth and tongue that caused the spasms rather than the effect of deglutition; but as rigidity still continued, as well as to anticipate the recurrence of spasms during the night, 10 cubic centimetres of antitoxin were injected at 9.30 P.M. He passed a good night and was much better in every respect on the next morning (the 19th). As the calomel had not acted a glycerine injection was given which relieved the bowels; but as the motion was rather constipated he had another calomel powder in the evening. On this date (the 19th) the mouth and tongue were frequently swabbed with glycerine of carbolic acid and to the chloral and bromide mixture were added three grains of bicarbonate of soda, one grain of rhubarb powder, and 10 minims of glycerine. This was given every four hours if he were awake. On the morning of the 20th an erythematous rash appeared on the chest and extensor surfaces of the limbs, the irritation from which was relieved by alkaline fomentations. No antitoxin was injected on this date; no spasms had occurred in the preceding 48 hours, the condition of the mouth had improved, and the boy had had more solid food. On the 21st, rigidity still existing, 10 cubic centimetres of antitoxin were injected, which for the first time did not cause a spasm, though the boy cried lustily. On the 22nd, on lifting him out of bed to try his walking powers, he had a very wooden feel and could only walk on his toes with assistance; the reflexes had diminished and, except the rigidity of the neck, jaws, back, and legs, no tetanic symptoms were present. On the 23rd the improvement continued and the boy was able to sit up in bed and amuse himself. Till the 27th the convalescence continued; he could now walk round the bed—rather stiffly; he had no pain; he took his food well and talked freely. On the 28th his temperature rose to 101°, which I attributed to an enlarged submaxillary gland. Fomentations were applied, but the gland, if anything, was larger in the evening and the temperature was still up. On the morning of the 29th the temperature was normal but rose to 100° the same evening, the gland showing no signs of softening. His temperature on the morning of the 30th was 101° and in the evening was 100°. On July 1st it was normal, the gland still being enlarged and indurated. There was no further pyrexia and a week later the gland had assumed its normal size, when the boy returned home and has been quite well since.

There are three points of interest in the above case: (1) the large quantity of antitoxin required (110 cubic centimetres), due probably to the local seat of infection not being detected and excised; (2) the absence of any abscess at the seat of infection; and (3) no complications except an erythematous rash and an enlarged gland.

New Eltham, S.E.

PEDAL MALFORMATION FROM AN EVOLUTIONARY STANDPOINT.

BY W. AINSLIE HOLLIS, M.D. CANTAB., F.R.C.P. LOND.

ALTHOUGH zoology, embryology, and palæontology have each supplied many facts in support of the doctrine of evolution there is one source of information (especially as regards man's pedigree) which appears to have been either overlooked or at all events not sufficiently explored—I allude to the study of congenital malformations from an evolutionary standpoint. To take as an example the human foot. The deformities of this member are all pretty well known and are of such character that they readily lend themselves to scientific classification. The fact that the distortions recur at rare intervals, yet over and over again, among all sorts and conditions of men, is a convincing proof, to my mind, that we are here dealing with cases of reversion to some ancestral types of foot from which the present shape was evolved.

Probably the earliest type of foot was formed on lines somewhat similar to the amphibian foot of the present day. Now, the peculiarities of the foot and hind limb of a toad or newt are many, and I shall only allude to two or three of the most striking in this instance, as I intend to consider the subject more fully elsewhere. In the first place there is a supplementary ankle-joint between the first and second rows of tarsal bones. This skeletal peculiarity, adopted by the lizard tribe generally, allows the dorsum of the foot in many species to touch the outer surface of the leg at the end of each step,[1] accentuating the "feathering action" of the foot, as the late Professor Sir G. M. Humphry aptly named it. This action induced by the supinato-extensor muscles tends to turn the sole upwards and outwards and is essentially a relic of the period when the limb was mainly used for swimming. Secondly, in the tailless amphibians the tibia and fibula are represented by a single long bone. In a rare form of club-foot—talipes valgus—owing to a want of balance chiefly between the above-named muscles and the pronato-flexor group the latter appears to be overpowered by the former, and we see in neglected cases of this distortion the first peculiarity of the amphibian gait symbolised, as it were, in the child's foot, the dorsum of which, owing to the eversion of the sole, not

[1] The peculiarity is well shown in the gait of the monitor, Varanus varius; this lizard at the end of each stride so bends the ankle-joint that the knee almost touches the ends of the extended toes.

infrequently touches the outer surface of the leg, and a false ankle-joint between the first and second rows of tarsal bones assists the comparison. And this similarity between the two feet is strengthened by the fact that talipes valgus is often associated with the presence of a single leg bone.

To cut a long story short and in order to abstain from unduly trespassing on valuable space I shall dismiss in a few words the distortion misnamed "talipes equinus," wherein the afflicted child treads on the balls of his toes with the heel raised in the air owing to the excessive shortening of the great heel sinew, the tendo Achillis. The deformed foot consequently mimics in its anatomical relationship the hind paw of a digitigrade carnivore, which also places only the distal ends of the metatarsal bones on the ground whilst walking. The most common form of club-foot, talipes varus or equino-varus, will require a somewhat longer explanation. Although the gibbon, the gorilla, and the chimpanzee are stated to walk on the soles of their hind feet when they at rare intervals betake themselves to the ground, yet I imagine that the true type of arboreal foot is rather to be looked for in the orang-outang than in any of the above-named primates. This animal when induced to stand upon the ground treads, as is well known, on the outer or post-axial edge of the foot, with the toes curled inwards. The posture is due to the pronato-flexor muscles overbalancing their antagonists, the extensors. In tree-climbing the stress of supporting the body falls mainly on the flexor muscles. When, however, the body is in an upright position with the feet on a flat surface the balance can be best preserved by the extensors doing a full share of work and this is what the extensor muscles of the orang-outang do not perform. As a consequence the gait of the animal whilst on the level is awkward and uncertain. At the other end of the mammalian scale, amongst the lowly organised sloths, probably also among the extinct mega-theriidæ, the outer edge only of the hind foot is, or was, applied to the ground when the creature walked. In these cases also the toes turn inwards, as do those of the orang-outang under like conditions and for similar reasons. Now the sloths are essentially arboreal animals and they support their bodies in a dependent position for days together from the branches of trees. It is therefore interesting to find that the posture of the feet in two such dissimilar arboreal animals as the orang-outang and the sloth is under certain circumstances for the most part the same. This fact, I believe, shows how the tree-climbing habits of an animal can influence its organisation. In talipes varus we have the distinctive peculiarities of the arboreal type of foot as above disclosed. In other words, the pose of the child's foot when he is placed on the ground closely resembles that of the orang-outang. We notice the same loss of the power (in the peronei especially) of preventing the inversion of the sole—the same inability to place the foot squarely on the ground.

I have purposely selected some of the most striking types of club-foot as exemplars of reversion. If, however, we arrange the recognised distortions of the foot in the following order—talipes calcaneo-valgus, talipes valgus, talipes equino-valgus, talipes equinus, talipes equino-varus, and talipes varus—we perceive at once a certain sequence in these abnormalities whereby they apparently pass almost imperceptibly from one form to another. Furthermore, we find in them anatomical resemblances to existing or extinct types of normal feet occurring elsewhere in the animal kingdom. And the rarest distortions are usually those which represent a reversion to the oldest types of foot.

Hove.

SHELL-FISH AND TYPHOID FEVER.—At the meeting of the Kingsbridge (Devon) Urban District Council held on Oct. 4th the medical officer of health (Dr. Webb) reported that there had been three cases of typhoid fever caused by eating cockles.

KING'S COLLEGE, LONDON. — The following entrance scholarships have been awarded:—Medical Entrance Scholarship, 70 guineas: A. J. Wigmore. Two Sambrooke Medical Exhibitions, £60: E. L. Holland; and £40, T. H. Jones and J. James (equal). Two Clothworkers' Company Science Exhibitions, £30 for two years: P. E. Kingsbury; and £20 for two years, F. C. McCombie. Engineering Entrance Exhibitions, £15: W. J. Marlow; £10, A. H. Imber; and £10, W. A. Sadgrove.

A CASE OF NEGLECTED TRANSVERSE PRESENTATION; DELIVERY OF A LIVING CHILD BY VERSION.

BY W. A. POTTS, B.A. CANTAB., M.D. EDIN., M.R.C.S. ENG.,

LATE RESIDENT SURGEON, ROYAL MATERNITY AND SIMPSON MEMORIAL HOSPITAL, EDINBURGH.

IT is not often possible to extract a living child in cases of transverse presentation which are seen for the first time after the first stage of labour is completed, when the liquor amnii has drained away and the uterus has contracted round the fœtus. The following case, therefore, seems worthy of record.

On the morning of August 2nd, 1899, I was summoned to attend a multipara, aged 31 years, in whom labour had commenced a few hours previously. The patient had had seven children, only three of whom had been born alive; all the labours had been abnormal. The last child was born on Nov. 2nd, 1898; the present confinement, therefore, was not expected to occur till some weeks later than the date at which it actually took place. Two days before I was summoned she had felt a few pains; these passed off and no more occurred till 7.30 A.M. on August 2nd. At that time she was already up and doing her house work. The pains were strong and frequent, and at 9 A.M. she thought it advisable to go to bed; at 9.30 the membranes ruptured and immediately afterwards the pains entirely ceased and did not recur. On arriving, at 11.30 A.M., I found by abdominal palpation that the case was one of transverse presentation, apparently a right cephalo-iliac dorso-anterior position; the uterus was contracted round the child and the position of the limbs could not be distinctly made out. On auscultation the fœtal heart could not be heard. On vaginal examination the os was found to be fully dilated and the left shoulder engaged in the brim, the hand and arm lying in the vagina. I at once proceeded to anæsthetise the patient with a view to turning; the vulva and vagina were disinfected with carbolic soap and creolin douches according to the Rotunda Hospital method. The shoulder was then disengaged and the lower leg, which happened to be the left one, was pulled down; the leg and thigh were both fully flexed and there was some difficulty in getting them down owing to the contraction of the uterus. It was impossible to rectify the position of the trunk, and as no pains occurred and gentle traction on the leg failed to produce any result I passed my hand up and pulled down the other leg; the trunk was then extracted. It tended to come down so that its transverse diameter would lie in the antero-posterior of the mother. By a little manipulation, however, the face was ultimately got to look towards the sacrum; the cord was then found to be pulsating, but very feebly. Accordingly I rapidly pulled down both the arms, which were extended above the head, and attempted to deliver the head by the Prague seizure; this failing, two fingers of the left hand were passed into the mouth and by traction applied in this way, with the right hand pressing upon the shoulders from behind, the head was delivered at 12 noon; the cord was now pulseless and the child in a condition of white asphyxia; the cord was therefore immediately ligatured and the child was put into a hot bath. After being in the bath for a few seconds artificial respiration according to the Schultz method was begun and these two processes were continued alternately; some brandy was also rubbed over the thorax and with a catheter a considerable quantity of mucus was sucked up from the throat. In ten minutes the child began to make occasional feeble respiratory movements and after ten minutes more uttered a very feeble cry. The hot bathing, "Schultzing," and rubbing with brandy were continued for one and a half hours, at the end of which time the child gave a vigorous cry while in a hot bath; the infant was then dried, wrapped in a blanket, and nursed near the fire. On returning to the mother the placenta was quickly expelled after a few "rubbings up" of the uterus.

The child was small and very feeble. During the rest of the day it was given five minims of brandy every three hours; the next day this was discontinued. The mother made an uninterrupted recovery. She insisted on getting up on the eighth day. On subsequent examination she was

found to exhibit only a moderate degree of pelvic contraction, the diagonal conjugate measuring four and a half inches, while the interspinous and intercristal diameters measured nine and a half inches and ten and a half inches respectively.

I am indebted for permission to publish this case to Mr. F. W. S. Mann, as it occurred while I was temporarily taking charge of his practice at Revesby, Lincolnshire.

Birmingham.

THE SURGICAL TREATMENT OF VARICOSE VEINS.

BY JOHN O'CONOR, M.A., M.D. T.C.D.,
SENIOR MEDICAL OFFICER, BRITISH HOSPITAL, BUENOS AYRES.

IN the *New York Medical Journal* of May 1st, 1897, a paper of mine was published in which I advocated total extirpation of the diseased portion of vein or veins, with primary ligation of the internal saphenous vein at the saphenous opening. As no mention was made of this operation in Treves's System of Surgery, the American Textbook of Surgical Science (Keen and White), or other books at my disposal, I concluded that my procedure was original. During the past six months I have read some correspondence in the London medical papers in which Mr. W. H. Bennett and Mr. F. A. Southam expressed satisfaction with the results obtained from similar treatment. Since January, 1898, I have operated on 40 cases and in only one instance experienced any serious post-operative complication—œdema of the left leg and thigh. This was in a very bad case of varix in which I had to remove the greater part of the external and internal saphenæ. However, by persistent massage the œdema gradually subsided and the patient is now (three years after) quite cured.

Having been disappointed with relapses following the old method of removing a number of pieces I came to the conclusion that a complete excision was necessary to establish a permanent cure. I think that if any surgeon were to thoroughly expose the affected area in a severe case of varices he would readily perceive that multiple incisions and ligations must frequently prove futile owing to what one might almost call the labyrinthal distribution of the contorted veins and their tributaries. At times I have found it most difficult to avoid button-holing or scoring the skin when the diseased veins were densely adherent to it; the only way to prevent this is by keeping the edge of the knife constantly turned towards the vein, even at the risk of cutting into it, which, after all, is a small matter which can be easily remedied by a pressure forceps. Whenever I committed the above error I invariably paid the penalty of having necrosis of the skin follow, which, needless to say, kept the patient in bed for months instead of weeks. It is in this class particularly that operation is most necessary, for sooner or later the adhering congeries of veins seriously interferes with the blood-supply of the skin, and ulceration or rupture, or both, supervene

The operation which I have practised during the past four years is as follows. The limb having been shaved and disinfected from Poupart's ligament to the ankle a two-inch incision is made over the saphenous opening and the internal saphenous vein is doubly ligated and divided; if no varicosity is present above the knee the wound is closed and dressed at once with dry sterilised gauze. If the femoral portion is affected the vein is dissected up after ligation at the saphenous opening and its branches are seized with pressure forceps and ligated. Generally, if varices are present above the knee there are also some below, and when such is the case the incision is prolonged downward directly over the vessel until the lowest limit of the disease is reached. In the last case on which I operated I had to make an incision 27 inches long, through which I removed 43 inches of diseased internal saphenous vein and branches. If the varices do not extend above the knee, after occluding the saphenous trunk as described above, an incision is made over the affected portion, a ligature is applied above and below, and the whole intervening mass is removed by dissection. All branches are caught up with pressure forceps and when the main channel is removed they are ligated with fine catgut. As frequently the external saphenous vein is also affected its varicose portion is dealt with in a similar matter. To some this plan may appear formidable, yet if the internal saphenous is primarily ligated at the saphenous opening there is little danger of emboli, &c. I have also employed this method for removing thrombosed veins occurring during and after pregnancy with most satisfactory results, and in six cases of phlebitis I found extirpation concluded the matter. In closing these long wounds I consider the blanket suture recommended by Cheyne and Burghard most useful, as it can be rapidly inserted and does not strangle the tissues like the old continuous suture.

Buenos Ayres, Argentina.

BLOOD DUST OR BLOOD GRANULES: A NEW CONSTITUENT OF THE BLOOD?

BY EDWARD G. HORDER, F.R.C.S. EDIN.

FOR some years the small dancing bodies in the plasma of the blood have proved a veritable mare's nest to many workers. What are they? and where do they come from? have been questions often asked, but with no satisfactory forthcoming reply. Last year I made some attempts to solve the problem and answer the questions. While experimenting in various ways to obtain this happy result I employed eosin, pricking through a drop placed on the finger-tip, at once transferring the blood to cover and slide, and examining under a one-twelfth immersion lens and No. 4 eye-piece. The small dancing bodies, so often mistaken for dirt, malarial parasites, &c., could be easily seen in the blood plasma, but my attention was reserved entirely for the leucocytes. The granules in the white cells began to move most vigorously, and after watching them for some minutes it was noticed that they (the granules) were extruded from the cell, scattered all over the field, and joined those already in the plasma. It was easily observed that the dancing bodies seen in the plasma before the extrusion of the granules were identical with those which but a moment before had been a constituent of neutrophile or eosinophile leucocyte. After the extrusion of the granules a pink-stained nucleus only was to be seen. My colleague, Mr. Hill, and Mr Deane of the Imperial Maritime Customs kindly examined a specimen and concurred with me in the conclusions I had formed.

The above was forwarded to Professor Halliburton and Dr. Manson last year, but owing to the rage for foreign stamps was, with many other letters, not delivered. My observations in consequence were not published. A few weeks ago I received the third edition of Cabot's book on the blood and saw that Müller and Stokes had discovered a "new constituent of the blood" and christened it "blood dust." From the account given it appears that we have been working on the same lines and I regret not having seen any communications giving a description of their observations. In my opinion "blood dust" is no new constituent of the blood, being nothing more than the extrusion of the granules from the leucocytes, but if these dancing bodies in the plasma must be named why not place them under the title of blood *granules*, seeing that this is the term applied to them before their extrusion from the leucocytes?

Pakhoi, South China.

UNIVERSITY COLLEGE, CARDIFF.—At the Engineers' Institute, Cardiff, on Oct. 6th, Professor A. W. Hughes of King's College, London, delivered the annual address to students, taking as his subject "The Present Condition of Medical Education." Mr. J. L. Treharne presided. Professor Hughes, who was the first professor attached to the medical department of Cardiff College, in the course of an interesting lecture, which will be found at p. 1000, referred to the Cardiff Medical School and said that the time had now come to complete it so that it might become a great medical centre. He added that they would need an endowment for the pathological department and said he wished that some public-minded citizen would make such a provision. A subsequent speaker stated that about £25,000 would be required to establish a complete medical school for Cardiff.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF STRANGULATED INGUINAL HERNIA IN AN INFANT AGED THREE MONTHS; RADICAL CURE; RECOVERY.

BY H. CAMERON KIDD, M.B. LOND., F.R.C.S. ENG.

MR. D'ARCY POWER'S case of strangulated hernia in an infant aged 10½ months, which appeared in THE LANCET of Sept. 30th, prompts me to place the following case on record.

On July 13th last an infant, aged two months, was brought to me with a history that the child had screamed and cried as if in pain almost constantly ever since its birth, that its hands were always tightly clenched so as to be with difficulty opened, and that a lump had formed in the groin. On examination a reducible right inguinal hernia was found of about the size of a walnut and the other symptoms, pain and contraction of the hands, as described by the mother. Further examination made it sufficiently clear that the cause of all the trouble was an excessively tight phimosis, so tight that when the child attempted to micturate the non-adherent parts of the prepuce were first distended to the utmost limit and then the urine spurted in a fine stream from the pinhole preputial orifice; the child used to pass urine only twice or three times in 24 hours. Immediate circumcision was advised and performed with the result that the rigidity of the hands and other signs of pain at once disappeared; the child began to urinate freely and frequently as an infant should, and within a fortnight the general improvement was so marked as to transform the whole appearance of the patient. A wool truss was applied which acted excellently and this was ordered to be kept constantly in place. On August 12th, the child being three months old, I was hurriedly sent for at 8 P.M. and told that in a sudden fit of crying at 4 P.M. the truss had slipped and the rupture had at once become much larger. The child was screaming with pain and on examination I found the scrotum occupied by a tense, hard swelling, quite irreducible, and with no impulse to be felt. Vomiting had been constant since the afternoon and was already offensive in character. All efforts at reduction, including inversion of the body for about 20 minutes, failed and the child was evidently becoming exhausted from pain and sickness. Explaining the urgency of the case I obtained leave from the parents to operate and it was decided that a radical cure should be performed even if the hernia yielded to taxis under chloroform. The child was admitted to the Bromsgrove Cottage Hospital and although reduction was effected before an incision was made the operation for radical cure was proceeded with. The operation was uneventful and the child made a rapid recovery and is now quite well. The particular moral of this case seems to me to be that if the phimosis had been remedied immediately after birth all the subsequent troubles would have been avoided.

Bromsgrove.

A CASE OF CONGENITAL IN-GROWING TOE-NAILS.

BY T. WILSON PARRY, M.A., M.B., B.C. CANTAB.

STRICTLY speaking, perhaps, the case which I am about to describe is not one that may be termed, at least according to the etymology of the word, congenital, as the child was not born with the nails actually growing into the flesh. I do not think, however, that I am wrong in designating it so, as all the conditions for the in-growing of the nails of both great toes were complete at birth and only a very short period of time was necessary to bring this pathological process to pass. The mother first noticed the abnormality when the child was about a week old, the flesh bordering the nails of both great toes being unduly raised. Another week made the deformity decidedly more marked, but as the grandmother of the child assured the mother that it would get all right, the mother "tried it" a bit before sending for a medical man. Towards the end of the third week, however, she saw that delay was of no avail, so I was eventually called in. The nail of the left great toe was now undoubtedly growing into the flesh and the flesh all around was raised and red and the skin, for some reason or other, was desquamating. The right toe was in a better condition and appeared to me to be amenable to treatment without the use of forceps or scalpel. I immediately proceeded to strap down the raised portion of both toes so as to permit the nails to grow over them, and in the case of the right toe I succeeded, though it required an infinite amount of patience to keep the strapping on, as the kicking of the infant speedily dislodged it, however skilfully the mother repeatedly applied it. After a short trial with the left toe I found that operation was imperative; so having placed the child under chloroform I removed the nail, scraped the thin line of ulceration around its edge and pared off the prominent part of the toe, which treatment, of course, gave sound results.

This case seems to me to be of sufficient interest and rarity to report. It is of interest because the causes to which the formation of in-growing toe-nail is usually attributable—(*a*) the cutting of the nail in a particular way or (*b*) the wearing of wrongly-fitting boots—were necessarily absent, as the infant in question had never had its nails cut, nor had it become old enough to wear boots. It is of rarity because I find that in the records of the Victoria Hospital for Sick Children in Chelsea (to which the house surgeon, Mr. E. J. Parry, has kindly referred for me) not a single case of the kind has ever been reported. These points, therefore, appear to me to afford sufficient excuse for my venturing to publish the case.

Youlgreave.

NOTE ON A CASE OF POISONING BY LINIMENTUM OPII, WITH REPORT OF THE NECROPSY.

BY CHARLES B. ROSSITER, F.R.C.S., L.R.C.P. EDIN., &c.

As the following case differs in several important details from those of the orthodox type I plead this as an excuse for bringing it under the notice of the readers of THE LANCET.

A man, aged 56 years, retired to bed one night at about 8 o'clock in his usual state of health. Two hours afterwards he was heard to be snoring very loudly by his wife, who, being unable to rouse him, ultimately became alarmed and sent for me. I arrived at 12.15 A.M. and found the patient deeply comatose and very pale, his skin being cool and moist. He was breathing regularly but not deeply and there were 16 respirations to the minute. The pupils were very contracted; they were equal, and all reflexes were abolished. The pulse was 60; it was somewhat feeble but regular. An inquiry elicited the fact of his having possibly taken "something," but there was no smell attached to the breath. A bottle standing on a shelf near the bed contained a few drachms of a liniment which he had been in the habit of using for "rheumatism." This smelt strongly of camphor and looked like tincture of opium. With the aid of the stomach tube the contents of the stomach were obtained and it was evident that a considerable quantity of the liniment was intermingled therewith. A solution of permanganate of potassium (three grains to the ounce) was then introduced and again withdrawn, and a fresh similar solution was re-introduced and also withdrawn, leaving about an ounce behind. Coffee and brandy were also administered by the tube and strychnine was given hypodermically. The faradaic battery was used for three hours, but beyond provoking muscular contractions it was of no avail. The respirations becoming less frequent they had to be assisted artificially. The pulse, however, first began to cause anxiety, becoming quicker, more feeble, and irregular. This was noticed at about 1 A.M. and these symptoms became more marked until, after being almost imperceptible and extremely irregular, the heart stopped at 3.30 A.M. About half a dozen respiratory efforts were made during the subsequent minute. I might add that artificial respiration was carried on continuously for over two hours, but the patient never rallied in the slightest degree. Atropine was not used as it was not available.

At the necropsy, which was made 32 hours after death,

the brain was found to be very anæmic. There was very slight venous congestion of the pia mater and the cerebro-spinal fluid was moderate in quantity. There was no other abnormality evident. The lungs were somewhat congested and both apices were tuberculous in a quiescent state, there being both calcification and caseation with local adhesions. The heart was normal and empty. The mucous coats of the stomach were very anæmic and showed five old tuberculous (?) "punched-out" ulcers with undermined edges. There were no signs of irritation or congestion. The stomach contained mucus, coffee, and brandy. The kidneys were slightly enlarged and somewhat congested. No other organ showed any abnormality bearing upon the case. I might add that the bladder was full of urine and rigor mortis was well marked.

The points of interest in this case are the early deep coma, the failure of the pulse primarily, the anæmia of the brain, and the comparatively small dose of liniment of opium taken (about two ounces). The part played by the camphor in the soap liniment as an ultimate cardiac depressant is a possibility which should not be overlooked.[1] I need hardly add that the poison was identified.

Southwark-park-road, S.E.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LONDON TEMPERANCE HOSPITAL.

A CASE OF COMPOUND, COMMINUTED, DEPRESSED, IMPACTED FRACTURE OF THE VAULT OF THE SKULL; WOUND OF THE DURA MATER; ELEVATION BY PRIMARY OPERATION; RECOVERY.

(Under the care of Dr. W. J. COLLINS.)

THE mortality from compound depressed fractures of the skull, especially when complicated with laceration of the dura mater, was formerly very high, even when operative procedures were undertaken for the relief of the depression. Blume[2] gives a mortality of 46·65 per cent. Recent statistics of the results of this form of injury show a very much lower rate of mortality, and the difference is undoubtedly to be attributed chiefly to the employment of the antiseptic method. No more striking example of the results obtained at the present time by operation for relief in this severe lesion could be given than the following case, and it is obvious that only harm could have resulted from waiting for the appearance of cerebral symptoms.

A man, aged 29 years, was admitted into the London Temperance Hospital on August 23rd, 1899, having been struck on the head by a brick falling from a height. He was picked up unconscious and conveyed to the hospital where he was seen by Dr. Collins within two hours of the accident. On admission the patient was semi-comatose and had no recollection of the accident. There was no bleeding from the ears or nose and no spasm, convulsion, or paralysis. There was a scalp wound one and a half inches in length over the left parietal eminence. The wound disclosed to the examining finger numerous fissured fractures leading to an acutely depressed area of some two inches in superficies. The fragments were not loose, but owing to the dinting action of the falling brick were firmly impacted or wedged together. It was deemed imperative to relieve the depression without awaiting the onset of cerebral symptoms.

Under chloroform the whole fracture area was exposed by a crucial incision and the flaps were held aside with silk. The periosteum was removed with a raspatory. No edge presented which could be laid hold of in the exposed concave depression. With a trephine, Hey's saw, and a bone forceps an adjacent portion of undepressed bone was removed and the dura mater was exposed. Two considerable fragments of bone were now found to be firmly driven in between the dura mater and the skull and these with some difficulty and force were extracted with sequestrum forceps. Several smaller fragments were removed, the wound being frequently irrigated with sterilised water. A rent about three-quarters of an inch long was found in the dura mater, but there was no evidence that any fragments of bone had entered the subjacent cerebrum. The surface of the exposed and pulsating cerebrum and the exposed dura mater were again well irrigated with sterilised water and the wound was lightly dressed with iodoform and gauze, no sutures being inserted.

Convalescence was practically uninterrupted. The wound remained aseptic; no cerebral symptoms whatever appeared. The temperature was 100·8° F. on the second day and on the eighth day, owing to an attack of tonsillitis, it rose to 102°, but with this exception progress to complete recovery was unimpeded. Two or three attempts were made to fill the osseous gap by insertion of decalcified cancellous bone, but with doubtful success. No hernia cerebri occurred and cerebration is entirely unimpaired, no motor or mental phenomena having at any time presented themselves.

[1] Lauder Brunton: The Action of Medicines, p. 656.
[2] Tillmann's Surgery, vol. ii., p. 163.

LEEDS GENERAL INFIRMARY.

A CASE OF ACUTE PARALYTIC DILATATION OF THE STOMACH.

(Under the care of Mr. W. H. BROWN.)

ACUTE non-obstructive dilatation of the stomach is a condition about which comparatively little is known. Carion and Hallion have shown[1] that section of the pneumogastric nerves in the dog leads to dilatation of the stomach and lesions of some part of the vagus have been found by others in cases occurring in human beings. The symptoms in many cases resemble those of uræmia, as in one described by Mongour.[2] It is probable that these symptoms are due to the absorption of toxins from the cavity of the dilated stomach. In Mr. Brown's case the distended viscus probably exerted much pressure on the other abdominal organs. The treatment of the condition is admittedly unsatisfactory; in the less acute cases frequent gastric lavage is likely to be useful, but in the more acute instances of this disease drainage of the organ through a gastrostomy opening is all that can be done accompanied by washing out of the stomach through the abdominal wound.

A man, aged 55 years, was admitted into the Leeds General Infirmary on Feb. 28th, 1899, at 5.30 P.M., said to be suffering from intestinal obstruction. The history of the attack was as follows. The man was in his usual good health up to 48 hours before admission, when suddenly he was seized with intense pain in the body accompanied by incessant vomiting; the vomiting continued until three hours before admission, when it ceased. On admission the patient, a well-nourished man, was in a very bad condition; the hands were cold, the pulse was small and thready, and the face was pinched and sunken. The abdomen was distended above the pubes, but flattened at the sides and epigastrium; it was resonant on percussion all over save between the umbilicus and pubes, where it was dull, and fluctuation could be felt and a succussion splash was obtained. The temperature was subnormal. The bowels had been moved slightly earlier in the day but no urine had been passed since the onset of the illness (i.e., for 48 hours). The abdomen was not tender to palpation, but the patient was in great pain, turning from side to side constantly and asking for relief from his agony. A catheter was passed into the bladder and about a drachm of bloody urine was withdrawn. Rectal examination disclosed a normal condition with some fæcal contents. An exploring syringe was passed into the fluctuating swelling midway between the umbilicus and pubes and withdrew about two drachms of thick greenish fluid with a curious smell recalling the contents of a pancreatic cyst.

As the general aspect of the case presented unusual difficulties with regard to a diagnosis and the only things that seemed certain were that the man would die shortly if unrelieved, and that the pressure of the fluctuating swelling was the cause of his suffering, Mr. Brown decided to open the abdomen. Ether was given and the abdomen was rapidly opened over the most prominent part of the

[1] La Semaine Médicale, August 21st, 1895.
[2] Archives Cliniques de Bordeaux, November, 1894.

swelling. A tense thin-walled cyst was then seen; it contained a dark liquid with some gas; the cyst was rounded. As no colon could be seen or felt, and as the tissues of the cyst wall seemed to be more like peritoneum than any viscus, Mr. Brown drew it to the surface, opened it, and let out about three pints of dark green viscid fluid, closely resembling that of a pancreatic cyst. The walls were stitched to the skin and the wound around was closed. The patient rallied well from the operation, and expressed himself as being much relieved, but he sank five hours later.

Necropsy.—At the post-mortem examination the cyst was found to be a dilated stomach which would easily hold five pints of water; there was no pyloric obstruction. The kidneys showed marked signs of nephritis and were saccular; all the other organs were healthy.

Remarks by Mr. BROWN.—In recording this case I feel that I am adding to the number of cases of intra-peritoneal problems with which we have to deal. The oftener one is called upon to diagnose and treat the lesion of acute peritoneal crises the more true does the saying "expect anything" seem to be. In this case, if its history prior to admission be correct, it must be admitted that a man apparently in good health can in 48 hours be found to be suffering from dilatation of the stomach sufficient to cause death. The previous cases that I am able to refer to—namely, those related by Hilton Fagge and Jessop—all ended fatally and post mortem no disease of the organ itself was present. In Fagge's cases the condition was diagnosed and the viscus was emptied by the stomach pump only to refill after a short interval. In Jessop's case the stomach was opened after it had been emptied several times by the stomach pump. In the case recorded above I thought at first that the vomiting might be due to uræmia, no urine having been voided for 48 hours, and after the exploring syringe had been used I thought it likely that the anuria was due to pressure caused by a collection of fluid in the region of the pancreas. When the abdomen was opened and I saw the cyst (afterwards found to be the stomach) I felt that by draining I should be relieving symptoms and possibly saving life. Had I been sure that the cyst was the dilated stomach I should have opened it, as the patient's condition was such as to negative the attempt at emptying through the œsophagus and as the use of the stomach pump in other cases had been followed by rapid refilling and death. It would seem to me to be the right thing in a future case to incise and drain, as this would at any rate prevent the refilling and do away with the necessity for repeated employment of the stomach tube, a measure which is most distressing to an enfeebled patient.

WESTERN INFIRMARY, GLASGOW.

A CASE IN WHICH A SMALL SILVER COIN WAS LODGED IN THE LARYNX FOR FOUR WEEKS; REMOVAL WITH FORCEPS UNDER COCAINE.

(Under the care of Dr. WALKER DOWNIE.)

IT is somewhat surprising that the coin in the following case did not cause more dyspnœa, obstructing as it did the rima glottidis to so great an extent. Had it been allowed to remain much longer in the larynx it would have led to ulceration, which might have given rise on healing to such contraction as to have interfered permanently with speech. From a consideration of 1674 cases of foreign bodies in the air passages collected from various sources Bosworth[1] has shown that 28·6 per cent. of the patients when no operation was performed died, and 25 per cent. died after operation.

A man, aged 46 years, was seen by Dr. Walker Downie at the Western Infirmary, Glasgow, on Sept. 8th, 1899. The patient complained of loss of voice and difficulty in breathing, particularly on exertion, of four weeks' duration. The story which he gave was that on August 12th he was intoxicated. In the early part of that day, while sober, his voice was clear and he had no difficulty in breathing, but on waking up on Sunday morning he could only speak in hoarse whispers, he had considerable pain over the larynx, his respirations were noisy, and he felt as if his windpipe was closing. These symptoms were supposed to be due to a "bad cold," and the use of many homely remedies was accordingly resorted to without, however, giving him any relief. His nephew, who had been with him on the previous night, told him that he had swallowed a "threepenny-bit," but the patient had no recollection of the alleged occurrence and maintained that he had done nothing of the sort. (This latter statement was not made until after the coin had been removed.)

On laryngoscopic examination the parts were found to be deeply injected. Both ventricular bands were swollen and inflamed. The greater part of the glottis was seen to be occupied by a flat body thickly covered with muco-pus. The body lay on the vocal cords so that their extremities, anteriorly and posteriorly, alone could be seen. This foreign body was then gently mopped over with a swab of cotton-wool on a laryngeal probe, after which its nature was recognised without difficulty. Although it had lain in the larynx for four weeks the metal for the most part was bright and the raised edge and the figure in the centre of the threepenny-piece were readily seen in the mirror. The position occupied by the coin is very well shown in the accompanying illustration. The interior of the larynx was anæsthetised with cocaine and the coin was at once removed by means of Mackenzie's rectangular laryngeal forceps opening antero-posteriorly. Flat foreign bodies fixed in the position which this one occupied are most readily extracted by forceps of Wolfenden's pattern, but on this occasion none were at hand. After the removal of the coin the upper surface of both vocal cords was seen to be eroded. This erosion quickly healed under the influence of soothing inhalations and within one week from the date of the removal of the threepenny-piece the patient had fully recovered his voice and all symptoms of the laryngeal distress complained of while the coin was lodged within the larynx had disappeared.

Position of coin as seen in laryngoscope mirror.

[1] Diseases of the Nose and Throat, third edition, p. 729.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Annual Meeting.—President's Address.—Serum Therapeutics and the Antitoxin Treatment.

THE annual general meeting of this society was held on Oct. 9th, the retiring President, Mr. EDMUND OWEN, being in the chair.

The balance-sheet was presented by Mr. DAVID H. GOODSALL, the treasurer, which showed that after the redemption of debentures to the amount of £200 and meeting all other liabilities a balance remained at the bank of £104 12*s.* 1*d.*—The silver medal of the society was presented to Dr. W. H. Allchin on his retirement from the post of librarian, a post which he had held for 15 years.—A vote of thanks to the retiring President was proposed by Mr. JOHN MORGAN and seconded by Dr. WILLIAM EWART.—After votes of thanks to the retiring officers, proposed by Dr. F. T. ROBERTS and seconded by Dr. F. J. SMITH, Mr. GOODSALL inducted Dr. Roberts into the chair.

An ordinary meeting was then held and the PRESIDENT delivered an address on the Progress of Medicine in the Nineteenth Century, which is printed in full at p. 995 of this issue.

This was followed by a discussion on Serum Therapeutics and the Antitoxin Treatment.

Dr. HERON said that he wished to confine his remarks to the use of tuberculin and referred in the first place to the use of the *old* tuberculin in tuberculosis of the lungs and skin. Prior to April, 1891, he had treated 37 patients, 32 having tuberculosis of the lungs and five being cases of lupus. All the lupus cases improved under treatment, but all five cases relapsed sooner or later. One case did not relapse until a year after recovery, but there were two which relapsed while under treatment while they were daily receiving doses of from 200 to 1000 milligrammes of the old tuberculin. 32 lung cases were treated in hospital with the old tuberculin during 1891, and of these eight subsequently died. One was a domestic

servant who remained well until 1897 and then relapsed. 10 of these 32 were now fairly well and three had been lost sight of. During the years 1897-98 nine cases of tuberculosis of the lung and one of lupus were treated in hospital with Koch's *new* tuberculin. Two of these had died, but both were hopeless cases when first seen. One patient died, having received 26 injections of the remedy between April 14th and May 26th, 1897. At the post-mortem examination there were no traces of recent tuberculosis in the other viscera. This fact was important, because it had been stated by Professor Virchow that the old tuberculin was apt to be followed by excavation of the diseased lung and the dissemination of the infection to healthy parts of the body. In this case, treated by the new tuberculin, there was no evidence of any such spread. Dr. Heron had not at any time in his practice seen a single instance of harm to a case of tuberculosis in consequence of treatment either with the old or the new tuberculin. Over 2000 injections had been given in his wards and in no case had there even been a superficial abscess at the seat of puncture. Concerning the remaining seven cases of pulmonary tuberculosis all did very well; they all left hospital by their own request, saying that they felt quite well enough to return to work and wished to do so. They had all improved in health to a remarkable degree. In the summer of 1899 four were still at work and in good health. Two had been lost sight of altogether and one was heard of at the end of 1897, when he was said to be out of work and destitute. The one case of lupus did extremely well and when seen 18 months afterwards the scar tissue was perfectly healthy and there had been no relapse. During the current year 10 cases had been treated at the hospital, all of tuberculosis of the lungs. In two of these the treatment had to be discontinued because of the high temperature due to the presence of a mixed infection, that is to say, septic organisms as well as tubercle. Three cases were still in hospital under treatment and were improving in health. One woman and four men still went to the hospital weekly and each received an injection of one bottleful of tuberculin. All had improved and were still improving. In reference to the kind of case most likely to receive benefit from the new tuberculin Koch himself had pointed out that the most suitable case was one in which only a small portion of one lung was affected and in which the temperature had rarely or never gone above 99·4° F. Such cases were, Dr. Heron thought, none too common, at any rate in London hospitals, but this should be their guiding rule; and cases of mixed infection should be submitted to other treatment.

Dr. WASHBOURN said that he proposed to confine his remarks to diphtheria antitoxin, anti-streptococcic serum, and anti-pneumococcic serum—the three curative serums with which he had had greatest experience. A careful distinction should be drawn between two classes of serums—the antitoxic and the anti-bacterial. The former neutralised the bacterial toxins and thus indirectly annulled the effect of the living bacteria, while the latter prevented the invasion of the body with living bacteria but had no effect upon the toxins. The diphtheria serum was antitoxic and the anti-streptococcic and anti-pneumococcic serums were anti-bacterial. It was unnecessary to discuss the value of the diphtheria serum. Its efficacy had been amply proved by the statistics of the Metropolitan Asylums Board and by the report of the Clinical Society. His own experience absolutely coincided with these reports. The mode of action of diphtheria antitoxin was not only of interest but also of great practical importance. He considered Ehrlich's theory to be the most satisfactory. This theory affirmed that bacterial toxins were harmful by combining with certain constituents of the cells. The cells of insusceptible animals did not possess constituents capable of combining with the toxins and were consequently not affected by the latter. Antitoxin was beneficial by combining with the toxins and thus preventing them from entering into combination with the cell constituents. If this view be correct he asked why antitoxin was not capable of saving every case of diphtheria. The reason was that certain tissues had greater affinity than the antitoxin for the toxins. He referred especially to the nervous system. Diphtheria patients who succumbed in spite of treatment with antitoxin generally died with symptoms pointing to vagus paralysis. These symptoms came on during convalescence and consisted of vomiting, abdominal pain, and irregular heart. He believed that in the future an antitoxin would be obtained which would possess a greater affinity than the nervous system for the toxins and would then prevent the occurrence of these symptoms. It was important to decide whether antitoxin should be given in every case of diphtheria. It was a good general rule to give antitoxin in all cases, but he believed that this rule might in individual cases be departed from with advantage; for example, in cases seen late in the disease and occasionally in very mild cases. It required, however, considerable experience to decide upon the omission of antitoxin in mild cases, inasmuch as cases apparently mild might ultimately become severe. It must be recognised that there was a slight risk in the administration of antitoxin, even fatal results having arisen from its administration. For instance, in cases which showed signs of cardiac weakness, where the pulse was feeble and rapid, some risk was run. The anti-streptococcic serum was anti-bacterial. It did not protect against all kinds of streptococci, as had been shown by several observers. As a consequence it had absolutely no effect upon certain cases although it exerted a most marked beneficial influence upon others. This was quite clear from a perusal of the literature and quite coincided with his own experience. He quoted cases of infective endocarditis and of erysipelas in which he was satisfied that the serum had cured the patients. The anti-pneumococcic serum had been first prepared on a large scale by himself and was now supplied commercially by Professor Pane of Naples. This serum, as far as laboratory experiments were concerned, was more reliable than the anti-streptococcic. Dr. Eyre and himself had tested Pane's serum and found that it possessed the potency claimed for it. One cubic centimetre protected a rabbit against 3000 fatal doses of living pneumococci. However, like the anti-streptococcic serum, it did not protect against all varieties of pneumococci. The results which he had obtained with the serum in the treatment of pneumonia were encouraging but not yet conclusive. In conclusion, he believed that the diphtheria antitoxin was without doubt of extreme value, that the anti streptococcic serum was of value in certain cases, but he would reserve his judgment as to the value of the anti-pneumococcic serum.

Dr. A. J. HUBBARD had tried the coagulating power of the various serums on the blood of living persons. This power appeared to be independent of their antitoxic properties, and for this purpose he used several serums indifferently—anti-streptococcic, anti-diphtheritic, and anti-syphilitic (afterwards withdrawn by the makers as useless for antitoxic purposes). In 1896 he tried anti-syphilitic serum in a case of aortic aneurysm in which pain appeared to be a measure of the severity of the case. After three daily injections without other treatment the pain had quite disappeared and objective signs improved. Pain recurred six months later and was promptly relieved by anti-diphtheritic serum. He had also used anti-diphtheritic serum with immediate success in the case of a single girl suffering from menorrhagia without any obvious pelvic lesion. Twelve months ago, in a case of hæmophilia which had suffered severely from recurring attacks of epistaxis, necessitating plugging of the posterior nares, he had injected anti-streptococcic serum and anti-diphtheritic serum on the following day. The hæmorrhage was completely stopped and the patient had no recurrence of the epistaxis. Dr. Hubbard thought that these facts pointed to a fresh departure which might lead to considerable developments. He had carried out various experiments to determine whether normal serum was as valuable a coagulant as the antitoxin serums, but up to the present time he had reached no definite conclusion on this point. He thought the anti-diphtheritic serum probably possessed greater coagulating power than the others.

OBSTETRICAL SOCIETY OF LONDON.

Pathology and Symptoms of Hydatidiform Degeneration of the Chorion.—Exhibition of Specimens.

A MEETING of this society was held on Oct. 4th, Mr. ALBAN DORAN, President, being in the chair.

Dr. HERBERT WILLIAMSON read a paper on the Pathology and Symptoms of Hydatidiform Degeneration of the Chorion. He reviewed briefly the earlier views of the pathology of the

condition. He then described the development of the chorionic villi and the changes which occurred in them when undergoing myxomatous degeneration, the changes as observed by himself agreeing almost entirely with those previously described by other observers. The "myxoma fibrosum" of Virchow was described and Dr. Williamson gave his reasons for regarding this condition as closely allied with hydatidiform mole. The question of the priority of the degeneration of the chorion or the death of the embryo was discussed and the conclusion was arrived at that degeneration of the chorion usually preceded the death of the embryo. The relation of hydatid moles and deciduoma malignum was discussed. Dr. Williamson gave reasons for doubting the doctrine of Spiegelberg with regard to the fœtal origin of the hydatidiform disease and quoted cases of repeated hydatidiform molar pregnancies occurring in the same woman. The usual naked-eye appearances of the mole were described. He then endeavoured to ascertain (1) the frequency of the occurrence of the condition and (2) the effects of (*a*) age, (*b*) multiparity, and (*c*) rapid child-bearing upon its production, concluding that (1) its approximate frequency might be once in 2400 pregnancies; (2) that hydatidiform pregnancy might occur at any time during the child-bearing period, the age of the woman having very little influence; (3) that the condition was more frequent in those who had borne few children than in those who had borne many; and (4) that it was not the rule for previous pregnancies to have followed upon one another with great rapidity. An inquiry was then made into the presence or absence of the usual signs and symptoms of normal pregnancy under the following heads: (1) amenorrhœa; (2) vomiting; (3) activity of the breasts; (4) blue colouration of the vaginal mucous membrane; (5) softening of the cervix; (6) uterine tumour; and (7) uterine tumour and fœtal heart-sounds. The conclusion was that all these symptoms and signs were usually present excepting the uterine souffle and fœtal heart-sounds, but sometimes these might be heard; whilst, on the other hand, the only sign which was constantly present was enlargement of the uterus. The distinguishing features of the condition were then described under the following heads: 1. The size and other physical characters of the uterus. Two classes of cases were shown to exist: (1) those in which the uterus was larger than would be expected from the probable duration of the pregnancy; and (2) those in which the uterus was smaller. Another feature sometimes present, and of importance, was uterine tenderness. 2. Vaginal discharges, with or without the cysts. 3 Hæmorrhage. Dr. Williamson then discussed the diagnosis, the conditions likely to be mistaken for hydatidiform mole being—(1) concealed accidental hæmorrhage and placenta prævia; (2) the discharge of a pelvic hydatid through the vagina; and (3) hydramnion, especially if combined with hydrorrhœa gravidarum. Cases in which difficulty had arisen were recorded. The complications met with were described. 1. Albuminuria, a frequent complication. Two forms were to be distinguished: (*a*) one form in which the prognosis was good, in which blood and epithelial casts were not present in the urine; and (*b*) one form in which the prognosis was bad and in which these structures were found in the urine. 2. Hæmorrhage, seldom fatal in itself. 3 Sepsis; sapræmia, septicæmia, and pyæmia were all frequent complications. With regard to prognosis, the mortality of the whole 25 cases was 20 per cent. The mortality of the 10 consecutive cases from St. Bartholomew's Hospital was 30 per cent.

Dr. HERMAN thought that Dr. Williamson's analysis of his cases was exceptionally valuable. He (Dr. Herman) was surprised at the high mortality which Dr. Williamson reported. He did not think that the mortality among cases of this disease in the London Hospital was anything like as high. His own experience was that in most cases when the cervix was dilated and ergot was administered the mole was expelled and that the patients got well. He did not remember ever having had to perform any intra-uterine manipulation to get away such a mole. In a few cases the existence of myxomatous degeneration had been suspected, but in most it had not been thought of until the characteristic vesicles had been seen in the discharges.

The PRESIDENT called attention to the frequency of uncontrollable vomiting in association with hydatidiform mole; cases illustrating this had also been published by Brindeau and Bué. Keiffer traced vesicular mole to proliferating arteritis which modified the development of the products of conception; this pathological change he attributed to the abuse of emmenagogues early in pregnancy. Neumann, Marchand, and Ludwig Fraenkel brought forward strong evidence that deciduoma developed from relics of hydatidiform mole. Marchand was also a strong supporter of the molar theory as to the origin of deciduoma, dissenting from the opinion freely expressed at a meeting of the Obstetrical Society in 1896 and since then supported by Veit.

Dr. W. S. A. GRIFFITH referred to the rarity of myxoma fibrosum as in his opinion more apparent than real, the condition being easily overlooked in cases of fleshy mole unless carefully looked for. He asked if any Fellow present could say whether he had diagnosed, not merely suspected, a case in the absence of the extrusion of the characteristic cysts. He referred to the danger of perforation during attempts to remove entirely the mole.

Dr. HUBERT ROBERTS asked whether Dr. Williamson considered the condition to be of maternal or fœtal origin and whether he regarded it as a new formation or as a degeneration. He referred to Dr. Eden's observations and pointed out that vascular degeneration had been found in the villi of a normal placenta. He asked whether any such changes had been observed in the stems of the degenerated chorionic villi. Dr. Roberts thought that Dr. Williamson had not considered fully enough the possible relation of hydatid moles to deciduoma malignum.

Dr. HERBERT SPENCER said that Dr. Williamson's method of determining the frequency of hydatid degeneration by comparison with the number of cases of midwifery attended from the same hospital as that in which the moles occurred was a very fallacious one and the proportion thus obtained was of no value whatever in estimating the rarity of the affection. The diagnosis from accidental hæmorrhage and placenta prævia was sometimes very difficult and in the absence of the cysts (which were rarely passed) was generally of the nature of a guess. He regarded abdominal ballottement as of some value in the diagnosis, a fœtus being rarely present in cases of hydatidiform mole.

Dr. JOHN PHILLIPS wished to emphasise the difficulty of diagnosis between concealed hæmorrhage and vesicular mole. He had seen several cases treated and was not aware of any septic complications whether treated by tents or by artificially emptying the uterus. He had never met with a case in which the cysts were passed in the discharge during any period of the illness.

Dr. LUDWIG FRAENKEL (Breslau) thanked the society for having permitted him as a guest to hear Dr. Williamson's interesting communication. Dr. Williamson had only briefly touched upon the relation of hydatidiform mole to deciduoma malignum. If he understood him rightly he agreed with the opinion expressed in the form of a resolution at that society four years ago that deciduoma malignum was an ordinary sarcoma of the uterus with pregnancy and, like Virchow, regarded the disease as myxoma of the chorionic villi. On the other hand, the great majority of German writers regarded it as surely proved that deciduoma malignum arose from the epithelium of the chorionic villi, because the connexion of the growth elements with the epithelial covering of the villi had been in several cases directly observed under the microscope. Hydatidiform mole was according to recent researches, not a true myxoma but a myxomatous degeneration of the stroma of the villi with great overgrowth of the chorionic epithelium; it was really a chorio-epithelioma benignum; if the remains of hydatidiform mole underwent malignant development there occurred a chorio-epithelioma malignum. Dr. Fraenkel referred to a case under his own care and another of which he had read of the association of hydatidiform mole with double ovarian cystoma.

Dr. HEYWOOD SMITH said he thought that there was a specimen of hydatidiform degeneration of the chorion at the Hospital for Women, Soho-square, and as far as he remembered it was diagnosed as such.

Dr. WILLIAMSON replied.

The following specimens were shown:—

Mr. J. B. SUTTON: (1) A case of Rotation and Impaction of a Myomatous Uterus; (2) a Tumour of the Mesometrium weighing 22 lb.; and (3) a Myomatous Uterus weighing 26 lb. successfully Removed from a Woman 74 years of age.

Dr. ROBERT WISE: A Photograph of a Very Stout Woman, aged 49 years, with Large Pendulous Uterine Tumour and a Lipoma as big as a Melon below the Right Breast.

LIVERPOOL MEDICAL INSTITUTION.

Introductory Address by the President on the Midwifery Forceps.

THE first meeting of the sixtieth session of this institution was held on Oct. 5th. The President, Dr. MACFIE CAMPBELL, was in the chair and 150 members were present.

The PRESIDENT delivered an address on the Midwifery Forceps—as Used and Abused. He observed that whatever the theories of practitioners might be as to the proper use of the midwifery forceps there could be no question that the invention of forceps was the greatest advance in the obstetric art up to the beginning of the seventeenth century. It could be pictured what practice must have been without them by the study of the older books on midwifery, when the instruments must have been in use tentatively for half a century. The practitioner could only resort to Paré's dreadful hooks or the "tire-tête" (involving certain death to the child and injury to the mother), or to the crotchet. The invention of the forceps was alluded to and their development down to the axis-traction forceps of modern days was traced. For a long time artificial aid was looked upon as the opprobrium of midwifery and there was a real fear of blame to the surgeon whether the child was dead or born alive and injured. Writers of early times spoke of the midwife's strictures with awe and dreaded to be called butchers. The patients, taught by the nurses, gave up hope when a surgeon was called in, so that it became common to use instruments secretly. Mauriceau quoted as a saying of his day, "When a man comes in one or both must die." Smellie gave elaborate instructions as to how best to elude observation. The forceps were carried in the pockets, the patient was covered with a sheet, and the instruments were brought out under its cover and laid on the bed. Then, surreptitiously, under the sheet, they were introduced, used, and as secretly removed and returned dirty into the same pockets, all without the watchful midwife or the equally suspicious friends knowing aught that had been done. How different from modern practice when the suggestion of artificial aid often comes from the patient or her anxious friends. The question as to when aid should be given was the subject of early controversy and still continued to be debated. After giving the opinions of many writers the President alluded to his own practice by stating (1) that a prolonged first stage was always safe to mother and child provided the membranes were intact and the presentation was natural; (2) that during that stage it was seldom necessary or advisable to give an anæsthetic; (3) that if a malpresentation were diagnosed it might be necessary to correct it by manipulation or if the corrected presentation did not remain permanent to rupture the membranes and possibly to turn or to apply the long forceps; and (4) that exhaustion was sometimes found in a protracted first stage, especially where the waters were lost prematurely and it might be needful to dilate and extract or to dilate in extracting by the forceps. When the second stage was fully entered upon and voluntary efforts accentuated the pains an anæsthetic (chloroform invariably) was given with the occurrence of each pain. If during an hour in multiparæ or during one and a half hours in primiparæ there was evident progress things were left to nature *plus* chloroform, only pressing chloroform when the head stretched the perineum. If, however, during that time (1) no progress was made; (2) the mother's pulse became rapid; or (3) the child by its movements or its pulse showed signs of exhaustion, then he applied Braithwaite's short forceps and delivered. This form of instrument was extremely handy, very light, and could be applied with a minimum of fuss. It was possible to pass the blades without even bringing the patient to the edge of the bed; the lower blade first, then the upper posteriorly, and gradually edging it around, but this manœuvre was seldom required. The head could be brought down slowly or quickly according to need, and when the head was on the perineum the extracting power could be applied by the left hand between the patient's thighs with as little separation of the thighs as possible. He deprecated flexion and abduction of the thighs by the nurse, being convinced that the proceeding rendered the perineum more tense and rupture more likely. When the vertex had well filled the vaginal orifice he removed the forceps and allowed nature to finish, if not too boisterous. If delay then occurred a modified "Ritgen" manipulation pressing "post anally" upon the face or chin was employed. He did not look upon such a case as requiring an after douche, unless for special causes, such as meconial discharge or a dead child, and was content to rely upon a boric acid or iodoform pessary inserted twice daily. He had conducted 243 such cases with the loss of two children and no maternal death. Consultation cases were excluded in which, of course, the mortality was higher. He attacked the statement that "gynæcology had become so largely surgical as the direct result of surgical interference in midwifery practice," made some time ago by a professor of midwifery, and produced opinions and statistics to controvert it. In conclusion, he stated that with forceps many evils, immediate and remote, were avoided. With anæsthesia forceps must be more frequently used and with asepsis and antiseptics their safety was increasing day by day.

Mr. NEWTON proposed a vote of thanks to the President for his able address.—This was seconded by Dr. R. CATON and carried by acclamation.—The PRESIDENT replied.—The meeting then resolved itself into a smoking concert at the invitation of the PRESIDENT and a very enjoyable evening was passed.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—This society held the first meeting of its eighteenth session at the West London Hospital on Oct. 6th, when the President, Dr. J. B. Ball, delivered his inaugural address on the Progress of Rhinology. He said that the history of rhinology was really contained in the last 40 years. In the middle of the present century, with the methods then in use, no proper inspection of the nasal cavities was possible. In 1854 Manuel Garcia discovered laryngoscopy. In 1857 and 1858 Turck and Czermak made observations and experiments based on Garcia's work, and in 1859 Czermak published an account of his methods of examining the posterior nares. In 1868 Thudichum (a former president and a member of the society) published some papers in THE LANCET on Some New Methods of treating Diseases of the Cavities of the Nose; shortly afterwards Duplay and Fraenkel devised new forms of nasal specula. The next great step was the introduction of cocaine by Freud and its use for the throat and nose by Jellinek. Examinations were rendered more easy and many more operations were made possible. The first great landmark in the progress of modern rhinology was the discovery of adenoid vegetations by Meyer in 1868, but it was not until 10 or 12 years afterwards that his discovery received widespread recognition. In 1880 Ziem demonstrated the great frequency of suppuration of the antrum and in 1889 Heryng introduced the method of electric trans-illumination. After referring to the great lack of warmth shown by physicians and surgeons to the new methods of diagnosis and treatment and the widespread scepticism that prevailed Dr. Ball said that they ought not to forget the name of Morell Mackenzie who had done so much for the progress of rhinology in this country.—A vote of thanks to the President for his address, proposed by Dr. J. W. L. Thudichum and seconded by Dr. S. D. Clippingdale, was carried by acclamation.—Dr. J. B. Ball briefly replied.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society took place on Oct. 4th, Mr. W. Thorburn (Vice-President) being in the chair.—Dr. R. B. Wild gave a short communication on the Etiology of Tuberculosis of the Skin.—Mr. Southam showed a girl, aged seven years, who four and a half years previously had sustained a Simple Fracture of the Tibia and Fibula at the Junction of the Middle and Lower Third. The case was treated in hospital in the ordinary way by means of splints, and a plaster-of-Paris bandage was afterwards applied, but osseous union did not take place. The child had been under treatment continuously since the receipt of the injury, the fragments having been rubbed together and hammered several times under anæsthesia, and on two occasions the ends of the bones had been resected and wired. At the time of Mr. Southam's exhibiting the patient the union, though still fibrous and allowing of slight movement at the seat of fracture, was decidedly stronger than it had been six months previously. It was not, however, sufficiently firm to allow any weight to be borne on the leg, which was somewhat wasted and about two inches shorter than its fellow. No cause could be found, either local or constitutional, to account for the want of bony union.

CLINICAL SOCIETY OF MANCHESTER.—At the annual meeting of this society, held on Oct. 2nd, the following were elected office bearers for the session 1899–

1900:—President: Dr. J. S. Bury. Vice-Presidents: Dr. T. A. Helme and Dr. E. S. Reynolds. Hon. treasurer: Dr. C. H. Braddon. Hon. secretary: Mr. J. E. Platt. Hon. librarian: Dr. W. Smith. Auditors: Dr. H. G. Brooke and Mr. R. G. Heathcote. Committee: Dr. Alfred Brown, Dr. J. G. Clegg, Dr. R. Crean, Dr. J. Daniel, Dr. J. W. Hamill Dr. J. Holmes, Mr. C. F. H. Kitchen, Dr. M. P. Ledward Mr. C. T. B. Maisey, Dr. R. T. Parkinson, Dr. T. Porter Mr. J. Rust, Dr. Graham Steell, Mr. F. H. Westmacott, and Dr. J. P. Williams.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The first meeting of the forty-fourth session of this society was held at the Royal Kent Dispensary, Greenwich-road, on Oct. 6th, Dr. Morgan Dockrell, President, being in the chair, when the following officers were elected for the year 1899–1900:—President: Mr. Charles J. Parke. Vice-Presidents: Dr. Edward H. Ezard and Dr. Septimus Sunderland. Council: Mr. Mayo Collier, Dr. George Herschell, Mr. Arthur E. Joscelyne, Dr. Thomas C. Meggison, Mr. William Henry Payne, Dr. Robert E. Scholefield, and Dr. H. Bowen Williams. Treasurer: Mr. John P. Purvis. Secretary: Dr. John P. Henry. Librarian: Dr. F. S. Toogood.

Reviews and Notices of Books.

Asthma: Recent Developments in its Treatment. By ERNEST KINGSCOTE, M.B., C.M., L.R.C.S. Edin. London: Henry J. Glaisher. 1899. Pp. 183. Coloured Frontispiece and Illustrations. Price 5*s.* net.

ALTHOUGH the title of this work is "Asthma," comparatively little is said about that disease. The volume contains 183 pages (with very generous margins). The first 88 pages are devoted to preliminary considerations and cardiac dilatation; 39 are considered sufficient to justify the title of the work; 44 are occupied with illustrative cases; and the remainder with "L'Envoi" and index. We are assured, however, by the author in his preface that "this work makes no pretension to be considered an exhaustive treatise on asthma."

The first chapter deals with "percussion," in which the various physical difficulties as to satisfactory percussion, which have always been acknowledged, are discussed, and a description of the author's plexímeter is given. Chapter II. is headed "Approximate Anatomy of the Living Heart." The author is undoubtedly right in suggesting that some change is necessary in the description of the heart to fully explain to the student its general appearance and relations, but to call what is undoubtedly a somewhat conical structure a four-sided pyramid with two apices, one a clinical and the other an anatomical, is surely not a step in advance, and to say that the anatomical apex "is formed by the aorta, pulmonary artery, and superior vena cava," is to make the subject more confusing than before, for in the first place these structures are not parts of the heart as that organ is generally understood, and in the second two of them rise from the bases of the ventricles, and the third enters the upper and back part of the right auricle, which is situated at a much higher level than the ventricular bases. Moreover, an author who converts an organ which was previously described as possessing two surfaces and two borders into one with five borders, five surfaces, and eight impressions without deigning to mention where the anterior wall of the left auricle is to be found is justified in feeling "some little compunction" regarding his work even when he is kind enough not to definitely localise the positions of the "eight impressions."

The next five chapters are devoted to a consideration of Cardiac Dilatation. Perhaps the less said about these the better. Amongst the causes of cardiac dilatation we find "hiccough" and angina pectoris, and amongst the "signs" of the condition "enlarged spleen" and "baldness." "Asthma" appears both as a cause and a symptom of "cardiac dilatation." We pass over the chapter on Treatment of Cardiac Dilatation, which consists mainly of a description of what is known as the "Nauheim treatment," also three chapters on Elasticity of the Lungs, Lung Suction, Emphysema, &c., and make a few comments on the author's theory of asthma, its etiology and treatment, which are dealt with in Chapters XII. to XIV.

In the chapter on the Etiology of Asthma the manner in which asthma is confounded with cardiac dyspnœa is surprising. The author starts with the assumption that asthma is a spasm of the bronchial muscles and that this spasm is originated by irritation of the vagal nuclei or of one or more of the many ramifications of the vagi or of some part of the sympathetic system, therefore the author is presumably describing "spasmodic asthma," yet on reference to the illustrative cases we fail to find sufficient distinction drawn between true spasmodic asthma, bronchial asthma, and cardiac asthma, and therefore we are in ignorance as to what condition is really being discussed. The author's ideas of the sputum in asthma are apparently somewhat rudimentary, for he remarks, "a patient of mine told me that these very thin spirals [Curschmann's] would suddenly appear in the mouth." He then proceeds to state his theory, to which apparently the whole book is intended to lead up, that "asthma" (whatever he means by that term) is caused by "cardiac dilatation." He bases his theory on the statement: "In treating chronic heart lesions it happened that some few of my patients suffered from asthma; they did not consult me on account of asthma; they had already exhausted medical opinion on that score. To my intense astonishment some of these cases entirely lost their distress of breathing." Now, what does the author intend to convey by these statements? Did his patients suffer from spasmodic asthma or cardiac dyspnœa? We do not wonder that they did not consult him on "account of asthma," but they probably did on account of dyspnœa. Dr. Kingscote is an enthusiastic supporter of Dr. Schott's "resistance movements" in the treatment of chronic heart disease, and yet he is "astonished" that dyspnœa was relieved thereby. The arguments adduced in favour of the theory just mentioned are so peculiar that we are sorry space forbids us to quote them *in extenso*, but we may give the following as an instance: "Why are not all cases of heart dilatation complicated with dyspnœa?" (By the way, the term "asthma" is suddenly dropped.) The answer to this is: "If the dilatation be very great the heart flops over on either side of the bony spine and thereby assumes a hollow conformation, somewhat resembling a saddle-back boiler, immediately over the vertebral column, by which means, perhaps, the vagi escape pressure." Further comment is needless.

An Introduction to Diseases of the Nervous System. By H. CAMPBELL THOMSON, M.D., M.R.C.P. Lond., Physician to Out-patients to the Hospital for Epilepsy and Paralysis, Regent's Park, Pathologist to the Middlesex Hospital. London: Baillière, Tindall, and Cox. 1899. Price 4*s.*

THIS little book of 120 pages is a clear and succinct introduction to neurology. The explanation of the principles underlying modern practice in the diagnosis and treatment of nervous diseases is made in a simple manner and the scope of the book has been determined by the author's practical experience of what it is the student ought to know as well as what it is that he finds it most difficult to learn. The author in a prefatory note rightly acknowledges his indebtedness to the standard works on neurology, especially to those of Sir William Gowers; and without some larger treatise to consult the student would now and again find it difficult to follow Dr. Campbell Thomson. It is, of course,

in such a book as this is intended to be, very difficult to decide what should be included and what rejected, while the value to the student of an "introduction" to any branch of medicine is greatly enhanced by brevity, so that the volume can be carried in the pocket and consulted on a point just when that point turns up in the wards or is present in the learner's mind. Therefore we do not lay any stress on the fact that such expressions as "cathodal closing contraction," "syringomyelia," "locomotor ataxy," "peripheral neuritis," "lateral sclerosis," "central lesion," "spastic paraplegia," and "infantile paralysis" occur without any definition of their meaning or any diagrammatic aid to their comprehension. It is clear that Dr. Campbell Thomson presupposes his readers to have studied the subject in larger books or to have followed attentively lecturers with a larger purview before coming to him, and that his intention has been to provide them with a means of arranging in an orderly manner what they have read or heard. This intention does not quite bear out the title of "introduction," but it is a very good and useful one and has been well carried out by the author. We can well understand senior students, or men reading for a higher qualification than those which they possess, finding this little work of great assistance to them.

LIBRARY TABLE.

Ten Shillings a Head per Week for House Books. By Mrs. C. S. PEEL. Westminster: Archibald Constable and Co. 1899. Price 3*s.* 6*d.*—Health is dependent on, amongst other matters, a happy home, and how many homes are ruined by bad and wasteful cookery. There are persons who have sunk low enough to "do" chops in a frying-pan and others to boil fish in cold water. Either of these iniquities is blameful and extravagant. Mrs. Peel's book is a light-house for the young housekeeper who has embarked upon the troubled sea of making both ends meet. It is, however, difficult not to sympathise with the lady whose letter is quoted in the preface: "Dear Mrs. Peel,—I wish you would not write such nonsense. My husband will now be more tiresome than ever about the bills." *Sunt lacrymæ rerum* indeed. All the same the book is sound except upon one or two points. Housekeeping on 10*s.* per head per week is certainly possible. We have worked out the menus given in Mrs. Peel's excellent book and find that for eight persons housekeeping can be done on £4 per week. But the eight persons should have very small appetites, and the four servants included in that number must be of a different stamp to those to be found in ordinary middle-class households, for they must be prepared to do without meat suppers, Mrs. Peel appearing to have compiled her lists without including this item. The ordinary servant will not make her supper of bread-and-cheese alone. Moreover, soap, candles, soda, house-flannel, and similar articles are not included in the £4 per week, though these things are not trifles and should be found in the grocer's book. Mrs. Peel makes one statement which appears to us open to the gravest objection—viz., that one pound of butter per week for cooking purposes would be sufficient for the needs of eight persons. When it is remembered that butter may be required for vegetables, sauces, cakes, pastry, and other things it will be seen that the cook who could spread one pound of butter over the week remains yet to be born. Another matter that strikes us is that Mrs. Peel has omitted to point out the immense advantage to be gained by personally choosing such things as vegetables, fruit, fish, and poultry. By taking this course the young housekeeper would get far better value for her money and would also gain knowledge of what is and what is not good. On the whole, however, Mrs. Peel's book is the best of the kind that has come under our notice and one which may strongly be recommended to housekeepers. If they will only take Mrs. Peel's advice they will be astonished to find how many pounds they will be able to spend upon themselves which formerly went into the pockets of the tradesman. There is one point with regard to which we are compelled to differ from Mrs. Peel. She recommends that curry should be served with a "border of rice," v. recipes 141, 168, and 286. Now the rice with curry should always be served on a separate dish; if not, it gets pappy and sticky. Moreover, 20 minutes is not long enough to cook a curry (v. 158), unless the chicken be cooked directly it is killed.

ASYLUM REPORTS.

Glasgow Parish Govan and Lanark District Asylum, Kirklands (*Annual Report for 1898*).—The average annual number of patients resident in the asylum was 202 and consisted of 107 males and 95 females. During the year 33 patients were admitted, 19 were discharged, and 19 died. Of those admitted 12 were suffering from incurable forms of insanity. As regards physical health, two were admitted in a very weak state and 14 in poor physical condition. Of the 17 discharges, 16 were regarded as "recovered," being in the proportion of 7·9 per cent. to the average resident population. Of the 19 deaths, three were due to general paralysis and two to senile decay. The tabulated causes (Table V.) of death show a total absence of phthisis and only one case is assigned to "tuberculosis of the intestines." The immunity from phthisis is thus remarkable among the population at this institution. "This freedom may be attributable to the fact that the dietary is very full and complete, that extra foods such as malt extracts, cod-liver oil, &c., are extensively used ..... out-door life is indulged in, and also to the fact that any case exhibiting symptoms of any form of tuberculosis easily communicable to other patients is treated as a case of infectious disease by isolation and disinfection of rooms. ..... During the past five years ending April 30th, 1899, there have been only nine deaths due to tuberculosis in any of its forms" The question of milk-supply it would seem is the only one to be looked to with a view to prevent tuberculous contamination from that source. Epidemics of influenza and of scarlet fever visited the institution during the year. Nine inmates, four of the staff, and five patients were attacked by the latter, and with the exception of one patient who died from malignant scarlet fever the others have recovered or are in process of convalescence.

County and City of Worcester Asylum (*Annual Report for 1898*).—The average number of patients resident in the asylum was 1096 and consisted of 479 males and 617 females. There were 206 admissions during the year, 181 of these being first admissions and 25 being re-admissions. Of the total admissions 98 were males and 108 females. Of the admissions 44 were in bad health and exhausted condition and 142 were in indifferent health and reduced condition. Among the admissions were 18 cases of general paralysis of the insane. 57 patients were discharged as "recovered" during the year, a ratio of 5·2 per cent. of the average number resident and the lowest recovery rate for 10 years past. The death-rate amounted to 9·67 per cent. of the average number resident and was 2·67 per cent. more than the percentage of the previous year. General paralysis accounted for 17 deaths and epilepsy for nine. Pneumonia with complications was the cause of death in 23 cases, while pulmonary phthisis and its complications accounted for 23 deaths and tuberculosis for one death. 12 patients died from senile decay. Colitis was present at intervals during the year and it carried off three victims, two males and one female. A new ward has been opened for female patients, but there is still overcrowding in this part of the building. Thus on Dec. 31st, 1898, there were 12 more female patients than the number for which the building had been certified by the Lunacy Commissioners. Mr. G. M. P. Braine-Hartnell, the medical superintendent, writes as follows: "Looking this fact in the face, it is necessary that without any delay the building of a second asylum should be put in hand, as long before it would be ready we should have to find room elsewhere for our surplus population." Considering the large mortality from phthisis in this institution the absence of all reference to open-air treatment and the need of isolation blocks for phthisical cases, together with the absence of an account of measures for Pasteurising the milk-supply and of guarding against infection from tuberculous milch-cows is noteworthy.

THE LANCET.

LONDON: SATURDAY, OCTOBER 14, 1899.

AMONGST the by-products of coal gas manufacture, as everyone knows, is coke, and though, comparatively speaking, of no intrinsic value, yet this apparently dead residual substance promises to open up a solution of the problem of the disposal of metropolitan sewage. It cannot be supposed that it is the chemical composition of coke which makes it an aid to the rational disposal of effete matters, but rather its physical peculiarity known as porosity. Though an inert substance it is comprised of myriads of cells, each acting like a chemical laboratory in which the operation of breaking up complex organic materials into simpler bodies which appear in the final product as inorganic substances is conducted by bacteria. In a word, success is ensured in the treatment of sewage by natural means with a view to its economic and hygienic dissolution by providing the bacterium with a laboratory in which to work and by placing at its disposal an unstinted supply of reagents. The laboratory may be the cell of a porous substance like coke, and the reagents consist of a plentiful supply of oxygen from the air. These conditions satisfied, the bacterial process then presents the advantages that it requires no chemicals, produces no offensive sludge, removes practically the whole of the suspended matter, effects the removal of over 50 per cent. of putrescible matter as compared with 17 per cent. by chemical treatment, while the resulting liquid or effluent is entirely free from objectionable smell and does not become foul when it is kept, and, further, maintains the life of fish. Six years ago we predicted that chemical treatment would soon be abandoned in favour of bacteriological processes, and the teaching of the present day stamps chemical treatment as wasteful, extravagant, and unsatisfactory. Now we may say that the great problem of the satisfactory disposal of sewage has virtually passed from the domain of chemistry to that of bacteriology.

The results obtained in a series of experiments, extending for about ten months, by the chemist and bacteriologist respectively of the London County Council go far at any rate to justify this view. The experiments of these gentlemen related to the process of intermittent bacterial treatment in coke beds and the results have just recently been presented to the Main Drainage Committee of the Council by Dr. CLOWES and Dr. HOUSTON. It is a very valuable document and shows that even the immense quantity of sewage daily discharged at the outfalls of the metropolis at Barking and Crossness could be satisfactorily dealt with by a system of intermittent bacterial treatment in coke beds. The system is shown to be remarkably economic and capable of producing results which probably satisfy sanitary requirements. Thus, Dr. CLOWES reports that neither on chemical nor possibly on bacteriological grounds can any serious objection be raised to the introduction of the effluent from the coke beds into that portion of the river Thames which is cut off by locks from the intakes of the water companies, and the water from which is not employed for drinking purposes and cannot be used for drinking on account of its "brackish" nature. Again, he says, the effluent certainly will not cause any deposit upon the river bed and will even tend to render turbid water of the lower river more clear and transparent. At the same time, the liquid discharge from the outfall into the river will be sweet and entirely free from smell. Further, it will carry into the river the bacteria necessary for completing its own purification in contact with the aerated river water and under no conditions can it therefore become foul after it has mingled with the stream. Finally, the effluent would in no way interfere with fish life in the stream. What an extraordinary contrast this affords to what can be stigmatised only as the clumsy process at present in vogue at the outfalls, in which chemical precipitants are used to separate the solid from the liquid matters. Thus by the process of chemical precipitation an effluent is obtained which is deadly to fish, while the sludge containing all the nitrogenous and phosphatic constituents is carried to sea by special sludge steamers and there discharged. How incongruous this proceeding seems now that it is established that by an apparently simple contrivance such as this coke bed countless purifying agencies can be readily utilised and the enormous expense of chemicals entirely saved.

It would appear, however, that the coke treatment does not by any means remove the bacteria from the crude sewage and, indeed, does not materially reduce the number. The bulk of those escaping, it should be observed, are probably necessary for the purpose of completing the purification of the effluent, but there may be some bacteria in this effluent, as shown in Dr. HOUSTON'S experiments, the presence of which might be looked upon in drinking water as undesirable. The question then arises whether the undoubted advantages gained by the breaking down of effete matters into non-putrefiable substances are sufficiently great to outweigh the possible danger arising from the discharge of an effluent teeming with bacteria, and the office of which, after all, in the main is to complete the work of purification already begun. As a matter of fact, the effluents from the Barking and Crossness precipitation tanks are in this respect not a bit better, and indeed are worse, Dr. HOUSTON says, than average samples of the raw sewage.

It cannot be pretended that the process is perfect, but at least it approaches a more satisfactory issue in regard to sewage purification, on such an immense scale as that of the metropolis, than has hitherto been realised. Even the question of the immensity of the scale on which the disposal of London sewage must necessarily be done would appear to be no difficulty in the way, for these experiments indicate that the whole of London sewage could be dealt with in a convenient and workable area. Moreover, the process is simple in the extreme. The experiments on intermittent treatment were carried out by filling the coke beds with sewage until the coke was just submerged, then allowing the sewage to remain in contact with the coke for several hours, and finally draining the liquid away completely. The coke was next allowed to remain for some

time in contact with the air which fills the interstices of the coke bed when the liquid has drained away. This series of processes is merely continued at regular intervals. The whole action is regular, and in the experiments recorded neither the effluent nor the coke itself has become foul. The process, of course, is one depending essentially on aeration, and experiments are quoted proving the rapid absorption of oxygen from the air. As to purifying efficiency it is shown that by substituting a "single coke" treatment for chemical treatment the effluent discharged into the river would be completely free from suspended impurity and would possess a purity as regards dissolved putrescible matter of 51·3 as compared with 16·9 in the present effluent, representing an improvement of 67·1 per cent. If discharged after double treatment in the coke bed the percentage improvement of the chemical effluent would be 75 6. Surely these figures must be the death-knell of chemical treatment, certainly as applied to London sewage if not elsewhere. Further, as Dr. CLOWES observes, the bacterial action continuing in the river would rapidly bring the purity of such a liquid into a condition equalling that of the river water itself.

We doubt whether a more promising solution than is suggested in the conclusions of this report of the great and vexatious problem of the rational disposal of the sewage of London has yet been forthcoming. The experiments, indeed, would seem to show that at last a convenient material and means have been found whereby the great natural agencies in the shape of bacteria—which in their turn must have an unlimited supply of oxygen from the air in order to carry on their beneficent work—can be utilised. It is probable, therefore, that shortly we shall be face to face with a new scheme which in the light of these experimental results the London County Council may feel bound to embark upon, since the installation should not be costly while the process is efficient, and it would replace a method which we have maintained for a long time was neither scientific nor economical, but sufficing merely to carry away an offensive human product out of view.

THE difficulty of obtaining good domestic servants and of keeping their services for a reasonable time forms no small part of the worries of many women and of some men at the present day. The domestic servant question has therefore a close interest for a large number of our readers, the general practitioner in both town and country finding himself involved only too often not merely in the care of a servant's health, but also in the justification of that care to the mistress. It may not be that the servant difficulty is really approaching the climax foreshadowed by a contemporary who declares that the "Chinee" is soon to be the domestic servant of the English home, but at any rate it is well worth the while of employers of servants to remove any obvious and easily remedied disadvantages of the servant class. We have already[1] directed attention to some of the disadvantages which first strike a medical observer and if we refer to the matter again it is because the subject is one of growing importance and is rendered more acute by certain modern building developments. In most of our large towns, and in London especially, the constantly increasing number of flats is the most conspicuous feature of quite recent years. This development is not merely the result of fashion, though that has undoubtedly stimulated the movement in some quarters at any rate, but it is a natural consequence of the limitation and costliness of available building areas in a big city. The problem is how to get the largest number of persons on to the smallest ground area and it is answered by the erection of tall buildings every storey of which may be inhabited by a separate collection of individuals. The number of rooms in each of these flats being, except in the very largest, not great, it becomes an important matter to make the utmost use of all available space. Naturally domestic servants are the first people to suffer with the commencement of this squeezing process. The position of their bedrooms is determined by expediency, and the general practitioner who visits a number of patients dwelling in flats becomes acquainted with an amount of sleeping accommodation in kitchens, pantries, and cupboards which he never suspected and of which he most seriously disapproves. It is difficult to imagine a state of things less conducive to hygiene than that to be found in a flat where the cook's bedroom is little more than a dark cupboard opening out of the kitchen. If the proximity of the bedroom is not inimical to the products of the kitchen, at least the proximity of the kitchen menaces the health of the occupant of the bedroom. In all probability the purity of both apartments suffers, and indirectly the master and mistress suffer too, for if their cook slept rather further off from where she works probably both food stuffs and culinary operations would be improved. It is not only in the smallest flats that examples of such accommodation—or rather want of accommodation—are to be found, but in flats with high rentals, too, the manner in which the servants are located is often most unsatisfactory from a medical point of view. In such cases the basement, very likely below the level of the street, inefficiently ventilated, and receiving scarcely any daylight at all, is given up to the accommodation of two necessaries, coals and servants. In the flats above families find rooms enough for themselves only and so one or two extra rooms according to the number of servants kept are taken in the basement. It is true that the servants have need to be in the basement very little except at night, the day's work being performed in the flat upstairs. But fresh air and light even in the bedroom are indispensable to health, and if they are needed by those who live in houses where passages and staircases make a certain amount of freshness of atmosphere unavoidable how much more essential are they in the bedrooms of those who pass their daytime within the narrow confines of a flat? At the present time, when the general public is learning on all sides the value of fresh air and light and their importance in the prevention of such diseases as tuberculosis, to mention the most prominent only, the conditions of life provided by the servants' quarters in some large blocks of flats in London and other towns is little less than astounding.

We do not wish to infer that there are not very many flats

[1] THE LANCET, March 25th, 1899, p. 845.

in which the requirements of hygiene are in every way respected in the living rooms and sleeping rooms of both owners and servants, nor that flats alone are to blame in this matter. Unfortunately it is true that in large town houses servants may be found living under conditions no better than those to which we have been alluding as prevalent in some flats. What medical man in the fashionable quarter of a large town has not visited the man-servant whose bed is let down at night from the wall of a pantry? On a shelf near the sleeper's nose there probably rests a plate or two redolent with the remains of supper the odours of which mingle with the fumes of the butler's final pipe in a struggle for atmospheric supremacy. Probably there is no window in the pantry, but not improbably there is a highly aromatic cheese. The washing opportunities of this "bedroom" remain an impenetrable mystery. Yet it is from surroundings such as these that the man, or boy, is expected to emerge daily with a fresh and healthy appearance and a capacity for the lively execution of innumerable errands. Should his health fail the medical man called in will very likely be looked upon as most unreasonable when he points out that sleeping accommodation with fresh air by day and night is essential to the servant's recovery and provides the easiest means of keeping him in health for the future. We have alluded chiefly to defects of servants' bedrooms, but in their life by day, too, particularly in the case of female servants, there is great scope for hygienic improvement and especially in the matter of fresh air. Very often the servants themselves are chiefly to blame. They come largely from a class of society in which an open window is regarded as a reproach to the inmates. Whether in town or country, in the "drawing-room" above a London shop or in the parlour of a rustic cottage, the class of people from which domestic servants are largely drawn seems to hand on from parent to child the horror of the open window. Perhaps it is connected with the danger of falling out that surrounds children who cannot be watched. Without, however, speculating upon the origin of this sentiment, interesting though it may be, we wish to point out how strongly it prevails among domestic servants and how detrimental it is to their health. Moreover, the harm does not stop only with those who are responsible for it. In the nursery it is not the nurse only who suffers, but also the infant under her charge, and, as a matter of fact, it is often in this way that the dread of ventilation first reaches the medical attendant's notice. Searching for an explanation of the continued pallor in the cheeks of a baby whose parents grudge no care or expense he finds it at last in the stuffiness of the nursery. It is beyond the scope of this article to point out the degrees in which all the different varieties of the female domestic servant suffer from want of fresh air, but in referring to the nursemaid we have probably mentioned that particular class of domestic which is least afflicted, her duties taking her out of doors to a considerable extent. If we glance for a moment at the life of a lady's maid, for instance, we appreciate to what extent the neglect of fresh air may be carried. These women spend a very great proportion of their time working with the needle. They are largely occupied with the gowns and other wearing apparel of their mistresses and find a ready excuse for keeping the window constantly shut in the suggestion that smuts blown in might damage the dainty materials of their work. They often have but little leisure in which to go out of doors and are too tired to make a proper use of it. In this way the maid works on day by day, rarely going beyond the door of the house and carefully excluding fresh air from her room, till at last the chlorosis, the gastric ulcer, or the dysmenorrhœa becomes so severe as to incapacitate her for her occupation.

It need hardly be pointed out how these circumstances bear upon the domestic servant problem. The probabilities of ill health readily become known to a girl who thinks of entering service. If she has not sisters who have gone into service before her, at any rate she is almost sure to have some relative or friend who has done so and who has experienced the ill-effects of unhygienic living even if she has not suffered through them. The prospective servant hesitates—and is saved. For nowadays, as we pointed out when discussing the matter before, the circumstances are very different from those of even a few years ago. Then there was little choice. Now the field of female labour is large even for girls of the domestic servant class. Yet the life in a private house must appeal to many girls more than the alternatives before them, and a wise determination on the part of the mistresses to take some care of their servants' health, to forego perhaps an occasional pleasure to do half an hour's needlework herself and to send the maid out, would do much to lessen the servant difficulty from which mistresses themselves are so much the sufferers.

THE Vaccination Return recently issued by the Parliamentary Secretary of the Local Government Board is a document of some importance. It shows "the number of certificates of successful primary vaccination received by the vaccination officers of each Poor-law union during each of the periods from Jan. 1st to June 30th, 1898, and from Jan. 1st to June 30th, 1899." In many places the difference between the figures of the two half years is very striking. In Gloucester there is an increase from 68 to 393, in Tetbury from 14 to 111, in Westbury-on-Severn from 9 to 376, in Bury from 233 to 2080, in Oldham from 49 to 1507, in Ashton-under-Lyne from 314 to 2677, in West Ham from 3347 to 6454, in Hackney from 757 to 2379, in Norwich from 85 to 670, in Nottingham from 404 to 1800, in Walsall from 719 to 2761, in West Bromwich from 415 to 2833, in Wolverhampton from 619 to 2265, in Dewsbury from 338 to 2063, and in Halifax from 105 to 696. Such examples could be easily added to, and it will be observed that among those which we have given are included various places which have been looked on as hotbeds of anti-vaccination. While the Union County of Leicester shows an increase from 234 to 1977, in Leicester itself, where a vaccination officer has not yet been appointed, the figures are very trifling—32 and 88 respectively—but even here the change is on the right side.

The total figures for England and Wales for the two half years are 278,588 and 355,987. This is an increase of 27·78 per cent. and is made up of a balance between increases in 479 unions and decreases in 165 unions. It

REPORT OF

The Lancet Special Commission

ON

BATH AS A HEALTH RESORT.

Introduction.

The department of medical science known as "balneology and hydro-therapeutics" has been especially studied during the past few years, but our knowledge of the action of the natural mineral waters, whether taken internally or administered externally, is still vague and the treatment adopted at the numerous spas must be designated as empirical. Experience has conclusively shown, however, that both methods of employing the "waters" are of great value in the treatment of certain diseases. What may be said to be the necessary conditions for the satisfactory and successful establishment of a spa? First, and most obviously, a plentiful supply of a water possessing actual therapeutic properties, dependent either on its temperature or on its mineral or gaseous constituents; secondly, the erection of suitable apparatus and appliances for the use of the water for medicinal purposes; thirdly, satisfactory hygienic surroundings; fourthly, the supervision of the patients by medical men who have made a special study of the properties of the local spring or springs; fifthly, a full staff of carefully trained attendants; and sixthly, social attractions. How far does Bath fulfil these requirements? We need not here consider the third heading; the sanitary condition of Bath is reported upon by our Sanitary Commissioner. A criticism of the medical faculty of Bath would also be out of place; suffice it to say that a number of the resident practitioners have made hydro-therapeutics a special study for many years and have thus constituted themselves experts on the medicinal use of the waters.

The Supply of Water.

To commence, then, with the first postulate named above—a plentiful supply of a water possessing therapeutic properties. The constituents of the water are described in another column, but it is impossible merely from the chemical analysis of a mineral water to give an absolute judgment as to what its clinical value is likely to be. There are some who maintain that the results of the treatment of disease by the Bath waters are simply dependent on their temperature and that the same results could be obtained by the use of ordinary water heated to the same temperature. Even granting that to be the case it would not displace Bath as a health resort, for it would practically be impossible to obtain an equal supply of water at a uniform temperature of from 104° to 120° F., as is here provided by nature. The total volume of water issuing from all the springs exceeds 500,000 gallons a day. The general opinion is, however, that the above view is not the correct one and that the constituents of the water do play an important though undetermined part in its medicinal value. This statement does not apply so much to the mineral salts which it contains as to the gaseous constituents. Reference to the analytical report will show that there is a large quantity of nitrogen evolved, together with some carbonic acid, oxygen, and the two rare elements, helion and argon. Our knowledge of the action of these gases on the human organism is small, but there would seem to be but little doubt that they do exert considerable power, whether by mechanical action on the peripheral nerve-endings and cutaneous vessels or by absorption is uncertain. The mineral constituents are not absorbed—at least, to any appreciable extent—but whether or not the gases are absorbed is another question. Attempts have been made to imitate the constitution of natural mineral waters but without success. Dr. Luff has made analogous experiments with regard to the ashes of plants and has shown that, although the extracts of the ashes have a solvent effect on the biurate of soda, when an attempt is made to form the solution artificially the same solvent action is not obtained. So is it probably with efforts to imitate the natural waters, the explanation being that it is not known what is the natural combination in which the elements exist and clinically that fact may make all the difference. It has been suggested that "telluric" heat may differ from artificial heat, but this supposition has by no means been proved.

The thermal waters of Bath rise by three springs, known respectively as "The Hot Spring or Old Royal Bath," "The King's Bath Spring," and "The Cross Bath Spring." Their composition and temperatures are given in our analytical report. The Cross Bath Spring may be dispensed with in a few words, as it is solely employed to supply a swimming bath, the charge for admittance to which is only 1*d*., and when other attractions are absent this bath is extensively patronised by the young people of the neighbourhood. The flow of water is estimated at half a hogshead per minute. When the bath is filled to a depth of four and a half feet it contains 11,350 gallons; the temperature is then generally between 84° and 90°. For "drinking" purposes the water from the King's Bath Spring is used, being pumped up at a temperature of 114°. It is drawn from a many-sprayed fountain in the Grand Pump Room (see Fig. 1) which receives a supply of eight and a half gallons per minute. A circular marble basin surrounds the fountain and receives the overflow in which the glasses for the water stand so that they are kept constantly warm. It is interesting to observe the change of colour which takes place in the glass owing to the presence of iron in the water. If deemed necessary the water can be heated to 150° by artificial means without any admixture or interference with its inherent properties, and it is so administered at the "Hetling Pump Room." The water for the baths (see analytical report) is forced by means of two pumps into a huge closed tank capable of holding 20,000 gallons. The pumps are each capable of dealing with that amount of water per hour, so that a plentiful supply is assured under considerable pressure. As regards the first

will be recollected that when the Vaccination Bill was before Parliament it was stated that the neglect of the operation throughout the country as a whole was to be looked on as applying to about a third—say, 34 per cent.—of the children born. The casual reader of the new return may be inclined to assume that as the improvement between the two half years under review is nearly 28 per cent. the total default throughout the country is now to be measured by the balance between the two percentages and that it at present, therefore, amounts to no more than 6 per cent., even including London, which for many years has been behind the provinces. This 94 per cent. of primary vaccinations would be well up to the standard which so long prevailed before the agitation against the Jennerian preventive achieved so mischievous a success. It is to be feared, however, that the calculation so easily made and so apparently satisfactory is misleading. In the memorandum accompanying the return a paragraph is devoted to the fact that in no less than 165 unions the vaccinations show a decrease. One sentence is as follows: "The explanations obtained show that owing to the appearance of small-pox in 1898 in or near to certain unions a large number of persons in those unions, some being immigrants from other unions, were vaccinated during January–June, 1898, *who should have been vaccinated previously*, and for the same reason numbers of children whose vaccination would in the ordinary course have only become due after the commencement of 1899 were vaccinated before that date." The words to which we wish to call special attention are italicised. They show that the figures for the two half years include the arrears of primary vaccination certified as having been overtaken during the periods in question. In recent years there has been an enormous accumulation of arrears, and owing to carelessness or to the advice of the Anti-Vaccination League a very large part of these arrears has not been disposed of under the conscience clause. The new Act, with its provisions for the encouragement of vaccination in the way of domiciliary visits, the use of glycerinated calf lymph, and what not, is calculated to diminish these arrears, and the question is, What part of the 28 per cent. increase is to be explained in this way? Unfortunately the return which tells so much is silent here, so that it is really impossible to say, since the new Act came into force, what percentage of the children born have undergone vaccination within the first six months of life. Of course, after the usual necessary interval of two years or more that information will be obtainable in exact detail from the annual reports of the Local Government Board's medical department, but it is a great pity that not even a rough estimate is attempted by Mr. CHAPLIN or Mr. T. W. RUSSELL in connexion with the present paper.

It is not to be doubted, however, that there is a considerable improvement, for the same causes which tend to wipe off arrears will also tend to the vaccination of infants within the time allowed under the Act. The increase, whatever it may be, is a matter for sincere congratulation. Mr. CHAPLIN'S Act is very incomplete and very imperfect, but it does contain some useful provisions of which the results are now beginning to appear. The sooner the Government redeems its promise by giving to revaccination its proper place on the statute book, the sooner will some approach to logical completeness be given to its dealings with the matter and the better will it be for the Government and for the country.

Annotations.

"Ne quid nimis."

THE CONFERENCE ON HOSPITAL ABUSE.

THE meetings of the Hospital Reform Association, held this week at St. Martin's Town Hall, were, we regret to note, but poorly attended. Yet the grievance is urgent and this has been fully shown in our columns But it only forms one phase of a vast economical problem and it is difficult to see how it is to be dealt with singly. By this we mean that the amount of work, of organisation, of discipline, and unanimity which must first be engendered in the ranks of the profession before anything of widespread effect can be achieved, would suffice to deal with all the other and kindred questions. Nevertheless, every little helps, and those who are awake to the necessity of hospital reform will, in the natural course of events, be led to study other allied matters. For the moment most of the papers read seem more like the testimony of witnesses relating what has come under their personal observation than the speeches of reformers striving in conclave to suggest statesmanlike remedies. A much broader grasp is necessary. For instance, there was a great deal of conversation about the appointment of an inspector to inquire into the financial position of the out-patients who frequent the hospitals. But the geographical difficulties of such inspection were not taken into account. Certainly such inspection is possible, but only on conditions like those observed at Manchester, where the hospitals have pooled together to meet the expense and to divide the town into eight districts with an inspector for each district and doing in that district the work, not for one, but for the six leading hospitals. However, it is not fair, perhaps, to criticise well-intentioned efforts to which we wish all success. The investigations made by our Special Commissioner in a great number of towns throughout England on this question of hospital abuse show how complex are the issues, and how they vary from place to place. It is from all these different bearings that the question should be considered. Individual testimony is very interesting and useful, but what is now wanted is a statesmanlike scheme by which the necessary pressure can be brought into existence. This is even more important than a perfect plan of reform; for schemes, however excellent, are of but little use if there is no machinery for bringing them into the domain of practical politics.

THE EXPENSES OF A MEDICAL MAN'S MOTOR CAR.

DR. CALBET of Paris has published a list of expenses for his motor car. During the year it has run about 6900 kilometres at the following charges: petroleum spirit (essence), 1052 litres, 437 fr. 15 c.; oil, 66 litres, 27 fr. 50 c.; lubricating oil, 3 fr. 15 c.; repairs, 1575 fr. 10 c.; sundries, 324 fr. 10 c.; debt on purchase money, 768 fr. 50 c.; coach-house and tax, 250 fr.; attendant, 1000 fr.; total, 4386 fr. This sum represents the total expense for one year, but the sum cannot be worked out at so much per kilometre run, for both

fixed and variable expenses are included. In the opinion of Dr. Calbet a well-made petroleum motor car runs easily and regularly, but to make it really economical both the original price and that charged for repairing must come down from the fancy heights at which they now stand; nevertheless its net cost will be found less than that of a carriage-and-pair. The *Autocar* (a journal conducted in the interests of those making or using automobile carriages of all sorts) of Oct. 7th makes a special feature of the opinions of medical men using autocars in England and publishes opinions from 13 who have, and are using, motor cars. All agree that using a motor car works out as cheaper than using horses, but only one medical man gives the actual cost per mile run. This he says is 6*d*. for a horse and only 3*d*. for his motor. The original cost of motor cars according to the various correspondents varies from about £160 to £433. As to repairs Dr. A. Charpentier has driven his car some 5000 miles in nearly a year and gives the cost of repairs as £26. He admits, however, that he does not include repairs owing to his having attempted "steeple-chasing" and failed. Dr. Calbet's repairs, it will be noted, amount to some £60, so possibly he includes the cost of "steeplechasing." Altogether it seems that, given a user who knows something about machinery and is willing to keep an eye on his motor himself, the motor-car should be a useful vehicle for the country practitioner.

"THE FIRST EPILEPTIC HOME IN ENGLAND."

UNDER the above title is given an interesting retrospect of ten years' work in the treatment of epileptics at the Home for Epileptics, Maghull. The home was founded by the late Mr. Henry Cox of Liverpool in the year 1888, and it was the first institution of its kind established in England. It was the founder's original intention to build a small hospital in Liverpool for sane epileptics, but upon the representations of friends interested in the treatment of epileptics he decided to found a home in the country where the benefits of hospital treatment could be obtained in combination with a healthy out-door life. The Manor House, Maghull, a suburb about eight miles to the north of Liverpool, was fixed upon as a desirable residence for the epileptics. Mr. Cox started the undertaking by a donation of £2000, of which £500 were to be used for furnishing and current expenses and the remainder was to be kept as a nucleus for a building fund when the extension of the premises became necessary. The institution is self-supporting in a great degree. There are three classes of patients who pay from 7*s*. 6*d* to £2 2*s*. per week respectively. The first annual report of the committee stated that 31 patients were admitted up to the end of the year and 10 discharged; five were second-class patients and 26 third-class. The progress of the institution ever since has been rapid. At the end of the year 1898 there were 120 patients in the home as compared with 20 at the end of 1889. A new building for male patients was opened in 1895. For the larger number of males accommodated by the enlarged institution some land was necessary and 32 acres have since been rented or purchased. Farming operations are a leading feature of the colony. The male patients are actively engaged in raking, loading, and carting the hay from the park and in other useful out-door occupations, whilst the female patients are provided with abundant household work, assisting in the laundry, and such like. 27 per cent. of the male patients and 28 per cent. of the females are able to work well and regularly; 32 per cent. are half-time males and 33 per cent. half-time females—that is, they can only do a half-day's work. The remainder are irregular and spasmodic in their work, and 12 per cent. of both sexes are incapable of work through incurable physical infirmity. The number of attacks of epilepsy recorded during 1898 was 26,391, of which the males (67 in number) contributed 14,310, an average of 213 per patient; and the females (53 in number) contributed 12,081, an average of 227 per patient. The attacks in the case of one boy were as numerous as 2966, whilst five patients had no attacks during the year. There have been 22 deaths in the institution since its foundation. Eight patients died suddenly from the severity of the attacks, 10 died from accompanying brain disease, three from other diseases, "and one case from the result of the absence of mind due to his being an epileptic." Special stress is laid on the fact that the aggregation of epileptics does not act disastrously on the individual. The feeling of loneliness and of special disablement that must strike an epileptic very painfully in the presence of healthy companions is here absent. The good results of treatment at the Maghull Home are amply borne out by letters received from former patients who have so far improved as to be able in whole or partially to pursue their avocations.

"QUACKS AND ABORTION: A CRITICAL AND ANALYTICAL INQUIRY."

IT transpired at an inquest held at Eastbourne last week that the deceased died after a miscarriage and that just before dying she stated that she had taken four pennyroyal pills. The jury returned a verdict to the effect that death was due to pneumonia accelerated by an overdose of some medicine of a corrosive character, self-administered and by misadventure. The druggist who supplied the pills said he was constantly selling steel and pennyroyal pills which he had always understood to be harmless. They cost 1*d*. a box, which contained four pills, the dose being one pill three times a day. The pills were composed of Barbadoes aloes, sulphate of iron, powder of myrrh, soap, and oleum pulegii. A reference to the analytical portion of the report of THE LANCET inquiry under the heading "Quacks and Abortion: a Critical and Analytical Inquiry," will show that in the majority of the pills examined exactly these substances were found. It is interesting to note the druggist's statement that he understood that the pills were harmless and the clause in the verdict that death was accelerated by an overdose of some medicine of a corrosive character; and the matter, in spite of these irreconcilable statements, was apparently allowed to drop.

PRIMARY HÆMORRHAGIC EFFUSIONS INTO THE PLEURÆ AND PERITONEUM.

IN the *American Journal of the Medical Sciences* for August, 1899, Dr. W. S. Cheesman and Dr. W. S. Ely relate the following very rare case. A woman, aged 47 years, in good health except for menorrhagia depending on a fibroid of the uterus, experienced in November, 1890, difficulty in breathing without pain or cough. In January, 1891, she sought medical advice and the right chest was found to be full of fluid. Aspiration was performed in March and again in May and deeply blood-stained fluid was withdrawn in July from two to three pints of odourless, darkly blood-stained, non-coagulable fluid, which deposited a heavy precipitate of blood corpuscles, was obtained. In the next six months the pleura filled so rapidly that it was aspirated 19 times. In January, 1892, the loss of blood from the pleura and uterus was telling on the strength of the patient and anæmia began to declare itself. As medical treatment had failed an attempt was made to produce adhesive inflammation by injecting iodine. The pleura was first washed out with sterile water, then with a quart of hot sterile water containing 30 drops of tincture of iodine, and finally a pint of Thiersch's fluid was introduced and allowed to remain in. Two hours later sharp pain was felt in the chest and the temperature rose to 100° F., at which it remained during 24 hours. In five days dyspnœa was

again felt and aspiration was performed. The fluid was then of a light colour, but in March dark and bloody fluid was again withdrawn. After irrigation Thiersch's fluid was injected and then allowed to escape. After this an iodine solution (25 drops to the pint) was injected and half a pint was allowed to remain in the chest. A reaction with pain and a temperature of 100·5° followed. In a week fluid had returned and a quart was removed. Fluid never collected in the right pleura again. But a week afterwards dyspnœa recurred and fluid was found in the left pleura. A quart of hæmorrhagic exudation similar to that of the right side was removed. It had collected without chill, fever, or pain. In the succeeding three months the pleura was aspirated seven times. An iodine injection was employed and the fluid collected once again, but never afterwards. In October, 1892, abdominal enlargement was observed. In November 17 pints of bloody serum similar to the pleural fluid were withdrawn from the peritoneum, and multiple fibroids were found springing from the fundus uteri. The operation was repeated 41 times in the next five years, and for the last time in November, 1897. The fluid did not collect after this, and a period of 20 months had elapsed at the time of the report. Hæmorrhagic serous effusions occur in association with cancer and tuberculosis, but there was no evidence of either in this case. Lawson Tait has written "On the Occurrence of Hæmorrhagic Pleuritic Effusion in association with Disease of the Abdomen."[1] He has related two cases. One exemplifies the familiar fact that malignant disease of the peritoneum and pleura may cause hæmorrhagic effusions, the other that similar effusions may occur with non-malignant abdominal disease (fibroma of the ovary). In the latter case six pints of blood-stained fluid were removed from the left pleura; the right then became affected. Dr. Cheesman and Dr. Ely conclude that in their case the existence of the uterine fibroid cannot explain the effusion because the pleuræ were attacked before the peritoneum. They think that the case is an example of what the French call primary hæmorrhagic effusions, of which Osler cites rare cases. We cannot quite follow their reasoning, for it is quite possible that the peritoneum was first attacked, though noticeable effusion occurred much later.

THE JENNER INSTITUTE OF PREVENTIVE MEDICINE.

DR. MACFADYEN'S introductory address at the Jenner Institute of Preventive Medicine on Monday possesses a significance which must appeal to the public and the medical profession. In one sense it is a summary of the history of the Institute, but it is more than this. It recalls the fact that Germany and France were busy in the same field of research before we in this country had even regularly entered it. It sketches the original scheme of work laid down when after long delay a British Institute of Preventive Medicine was founded in 1891, and it shows how that scheme was from the first, notwithstanding the known prejudice of some persons, accorded a large measure of public support. The practical generosity of Lord Iveagh and of the Jenner Memorial Committee afforded further welcome proofs that the excellence of the aims and work done at the Institute were recognised. By these additions the permanence of its labours was assured. The general character of the work which is carried on is familiar to our readers, though some of its details probably are not. Briefly, these include the primary business of research into the causes of disease attributable to the action of bacteria and the means of their prevention. Among the latter the preparation of antitoxins fills an important place. The bacteriological diagnosis of disease is extensively practised on behalf of the chief London vestries, and similar assistance is rendered to local sanitary authorities. An interesting and most useful addition to the ordinary work is that carried out by the Hansen laboratory for the application of bacteriology in connexion with industrial and technical processes. A post-graduate course of instruction is provided at the Institute, while students from all parts of the world attend it for the purpose of original investigation. The fact that so much has been organised and accomplished in the course of a few years in this country where sanitary opportunities are constantly being sacrificed to the wishes of ill-informed objectors brings no small credit to the perseverance of the promoters of the Institute. It is at the same time somewhat discouraging to remember that as yet the effort remains virtually an isolated one. We trust that the British public, to whom this question of the prevention of disease is after all of the first importance, will see that the example set by the metropolis does not lack support when support is claimed in other centres of population.

[1] Transactions of the Royal Medical and Chirurgical Society, 1891-92, vol. lxxv.

THE ITALIAN RED CROSS.

ON the disastrous day of Adowa—"the Moscow of Italian colonial expansion"—on the Kalends (why was it not the Ides?) of March, 1896, the combatant arm of General Baratieri's forces was put to shame by the medical, including that auxiliary to it, the ambulance service of the Red Cross. Not only under fire, but throughout the hardly less sanguinary retreat, the medico-military department, seconded by the "Croce Rossa" aforesaid, displayed a courage, a coolness, and an efficiency all too inconspicuous in the regiments of the line, and recalled to the world what Murat's 10,000 Italians endured and dared in the terrible Russian campaign of 1813. Italy, indeed, has good cause to be proud of her Red Cross organisation, and ever since the "day of Adowa" has been lavish of her contributions to its support and development. The annual bulletin—the fifteenth of the series—issued by the Central Committee of that organisation is now before us and will be found full of interest (it may be of instruction) to the sister organisations of the other European Powers. One of its special features is the account it gives of the "Red Cross Afloat"—an innovation which Italy claims as her own—for utilising the water-way, consisting of lake, river, and canal, so characteristic of that historic battle-ground the Lombardo-Venetian plain. The "ambulanza fluviale" (river ambulance) known as that of "Alfonso Litta of Milan," and fully described in the "bulletino," might suggest valuable additions to our own service, particularly in tropical warfare or wherever there is water-way sufficient for such a "medical flotilla." The coolness, the silence it secures to the patient cannot but prove grateful to him as well as conducive to his convalescence—to say nothing of the economy it effects in its exemption from draught cattle and their *personnel*. Reinforced, as indicated by the liberal contributions of the last three years, the funds of the Italian Red Cross in cash and *matériel* now amount to 6,262,187 lire and its hospital accommodation includes 49 "ospedali di guerra," 22 mountain ambulances, 15 hospital trains, two "ambulanze fluviali," two hospital ships, and 40 stations in connexion with railways. All these may be augmented in case of mobilisation—the "stazioni fluviali," for instance, may be raised to eight. The professional staff numbers 786 medical men and pharmacists, 771 "commissari" (secretaries, clerks, and ministers of religion), and 2032 "infermieri" (clinical attendants or porters with their chiefs). Represented abroad by 49 "delegazioni," the Italian Red Cross, under its Central Committee, has 359 "sottocomitati," 98 ladies' "sezioni," and 559 communal

delegates; while the members of the organisation amount to 23,426, drawn from 49 provinces and 2348 communes. The Central Committee, we may add, has obtained a new and honourable distinction for the members of the above-indicated committees—a regulation by which a reciprocal salutation is rendered obligatory between the officers and marines of the Royal Navy and the officers and professional staff of the Red Cross. Certainly, the contrast between the combatant and the medical (including the Red Cross) arms on "the day of Adowa" more than entitles the latter to the respectful recognition of the former.

IODINE IN ARTICLES OF DIET.

IODINE has not hitherto been presumed to be present in any important quantity in alimentary materials, but according to recent researches which have opened up a very delicate process for the detection and estimation of iodine this element occurs certainly in the flesh of fish and shell-fish in not a negligible quantity. It is true that traces of iodine have been found in cod-liver oil which with other elements such as bromine and phosphorus probably exert a slight specific action and possibly a favourable influence on the absorption of the oil, thus contributing in some measure to its tonic effects. The flesh of fish is peculiarly nutritive though less satisfying and perhaps less stimulating than ordinary kinds of meat. It is able to be digested more easily and rapidly than is animal flesh and on these considerations affords a useful food for invalids. But most fishes contain iodine, and thus the occurrence of this element may be a factor of importance in the suitability of a fish diet for invalids. The herring appears to be at the top of the list, containing two milligrammes of iodine per kilogramme. Next come mussels, 1·9 milligrammes per kilogramme; next salmon, 1·4 milligrammes per kilogramme; then ling and cod, 1·2 milligrammes per kilogramme, and the same amount in oysters. The salmon trout appears to contain the smallest quantity, which is only 0·1 milligramme per kilogramme. These results are interesting and doubtless the inquiry will be extended to other articles of diet, though on the face of it there is more probability of iodine occurring in fish than in mammals or vegetables.

PURULENT ENCEPHALITIS IN THE NEWLY-BORN DUE TO INFECTION FROM THE UMBILICAL CORD.

DR. GUY HINSDALE of Philadelphia reports in a recent number of the *American Journal of the Medical Sciences* (September) an interesting case of this condition occurring in a newly-born infant. The child was born of a woman, aged 27 years, who had been suffering from uterine inflammatory trouble for which she had been treated by "curetting" two years previously in hospital. The pregnancy in the present instance was attended with pain felt from time to time in the hypogastrium and pelvis, and during the third stage of labour it was noticed that a quantity of pus was passed with the placenta. The child at birth seemed to be slightly emaciated in appearance but this became marked on and after the third day. He suffered from nystagmus since birth and from frequent and continuous retraction of the neck. The temperature was 103° F. From time to time the child uttered short, shrill cries, and had convulsions. The mouth showed appearances of thrush. The umbilical cord had a fœtid odour and it was dressed with boric acid lint and it separated on the sixth day. The child continued to grow worse, would not suck, seemed to be in great pain, and died on the thirteenth day. A necropsy was made by permission of the parents on the head alone. The skull-cap was removed and the dura mater appeared to be free from any inflammatory condition. On opening the dura mater, however, its inner surface, as well as the whole surface of the brain (convex aspect and base), seemed to be bathed in a layer of pus of pale-yellow colour and of thick creamy consistence. The pus penetrated into the great longitudinal fissure and into the sulci of the brain. In the left frontal lobe there was a small abscess of recent formation and without a distinct lining membrane or wall to it. It contained from 15 to 20 cubic centimetres of pus. In a corresponding position on the frontal lobe of the opposite cerebral hemisphere there was a large local hæmorrhage, and the whole cortex in both hemispheres showed numerous scattered miliary hæmorrhages. The cerebellum showed purulent encephalitis on its surface. On examination of the pus under the microscope after staining, numerous bacteria of rod-shaped appearance and slightly curved in outline were found. In sections of the brain prepared and stained with the aniline dyes (methyl-violet, fuchsin, &c.) these bacteria were found in abundance in the inflammatory exudates surrounding the blood-vessels (perivascular areas). The nerve-cells showed advanced degrees of degeneration of the granulo-fatty type combined with vacuolation of the protoplasm. There were also found abundant hæmatoidin granules and miliary hæmorrhages as well as minute thrombi and softening throughout the cortex. Pure cultivations from the pus in the meninges were made and the bacteria thus obtained were found to be of the form before mentioned—viz., of rod shape, with rounded ends and slightly curved in outline. Their width varied from 0·5 to 0·8 of a micron. They were apparently without mobility, stained with aniline dyes, and were decolourised by Gram's method. The cultures flourished well on all media and did not liquefy gelatine. They formed a cloudy growth and produced a granular deposit in bouillon. In sugar solutions the cultures produced gas. They were found to be virulent; for example, guinea-pigs injected with one cubic centimetre of the bouillon culture succumbed in 12 hours or less. The microscopical appearances and the modes of growth on the media served to establish the organism as the bacterium coli immobile. It must be added that the woman in the present case was free from puerperal fever or septicæmia and made an uneventful recovery. Dr. Hinsdale refers to a case reported by Dr. L. N. Bosworth, who had found the above colon bacterium in the pus within the cranium of an adult who had died on the fourth day from purulent meningitis. In the present case the infection of the child evidently took place through the umbilicus, the original source of mischief having been situated in the uterine wall at the site of attachment of the placenta. The lesions of the brain as found post mortem were apparently consistent with a short duration of the purulent meningitis due to infection of the child, probably a period not longer than that which elapsed between the birth and death of the child.

INFANTILE MORTALITY IN THE WEST RIDING OF YORKSHIRE.

THE annual report for 1898 of Dr. J. R. Kaye, medical officer of health for the West Riding of Yorkshire, contains some striking statistics as to infantile mortality in the district under his charge. He points out that out of every 1000 children born in the West Riding during 1898 165 died before completing their first year of life, the mortality being higher in the urban than in the rural districts by the proportion of 170 to 151. There are individual districts where the figures become positively lurid. In Featherstone, Heckmondwike, and Ravensthorpe, says Dr. Kaye, "actually one child in every four never sees the first anniversary of its birth." The remarks of several of the district medical officers—those of Mr. J. J. Jackson, medical officer of health

of the Wakefield Rural Sanitary Authority, those of Mr. J. A. E. Stuart, medical officer of health of Batley, and those of Mr. F. G. Twigg, medical officer of health of Mexborough, which are embodied by Dr. Kaye in his report, seem to show that this grave infantile mortality is largely due to a total ignorance of domestic hygiene on the part of the mothers.

MEDICAL LEGISLATION IN RHODESIA.

OUR readers will remember that we lately [1] had occasion to criticise unfavourably some very crude attempts at medical legislation in Rhodesia. We are glad to learn that they have not yet received the sanction of the High Commissioner, and there is reason to hope that the promulgation of the Ordinance to which we referred will be indefinitely postponed.

THE SAD CASE OF THE LEICESTER GUARDIANS.

THE Leicester Guardians have now been severally served with a notice requiring the return of the writ of mandamus of the High Court within eight days. The English of this is that if the Leicester Guardians do not appoint a vaccination officer they may have to go to prison. It is said that the guardians are divided in their opinion as to the course they should pursue, 20 being willing to do their legal duty and 26 sticking out for the crown of martyrdom.

INSANITARY HOUSES IN DEWSBURY.

SANITARY inquiries conducted by competent journalists have often borne good fruit, for newspaper publicity supplies an admirable stimulus to local authorities, especially when the said authorities are inclined to slackness in the administration of the district committed to their care. An excellent illustration of this view has recently come to light at Dewsbury, an important Yorkshire town of about 29,000 inhabitants Some months ago the *Dewsbury Reporter* published a series of special articles on the housing of the poor in Dewsbury, showing that the sanitary condition of parts of the borough was most unsatisfactory, and in our issue of July 22nd we commented upon the facts set forth. No sooner did the revelations appear than some of the leading townspeople condemned them as exaggerated and sensational, but further inquiry has abundantly justified the accuracy of the *Dewsbury Reporter's* criticisms. When it was found impossible to shelve the question any longer the corporation referred it to the Sanitary Committee, which took the judicious course of making a personal inspection of the alleged defects and has just presented its report. This report is of considerable length; its general tenor will be understood from the following extracts:—

"..... In the district of Dawgreen ..... your committee found, as will be seen by the tables attached, many cases where alterations are required. In many cases houses have been illegally altered from their original purpose surreptitiously and without the sanction of the local authority. ..... In the property between Boothroyd-lane and the Park Walls the main streets are in very good repair, but when the courts and squares come to be examined a lamentable state of affairs is disclosed. *Some alterations are required, but chiefly that which was recommended some years ago by the medical officer*—that a house should be demolished at each end of the squares, so as to make these blocks into open streets. These blocks are a conspicuous example of the evils of dwelling-houses built back-to-back in closed squares and courts. ..... In Batley Carr we found a noisome lot of habitations known as Brick-row, Lidgate-lane. The houses are badly built. They are also dirty throughout—the fault of the inhabitants. In tables appended to this report is shown the work done by this committee, the evils and nuisances removed, and the general work conscientiously and effectively carried out by their officers."

We have included the last sentence of our quotation because it closes the report of the committee, and when read in the light of what goes before it seems to be jocular. It must also be taken in connexion with a detailed list showing the "Results of Inspection by Committee," the first four clauses of which specify the following sanitary shortcomings as existing in houses in Middle-road: Open ashpits adjoining the public street; overcrowding of organ men and ice-cream vendors; dilapidated wood buildings with defective pavement used for the purpose of making and storing ice-cream; defective and broken-down privy and ashpit in a most insanitary condition adjoining the public street. We have taken the liberty of italicising a line or two in that part of the committee's report which refers to the medical officer of health. Is the Dewsbury Corporation now sufficiently in earnest to approve of the recommendations made by this gentleman "some years ago"? It would be interesting to know who is responsible for the existence of this accumulation of offences against the first principles of public health—a state of things which is most injurious to the well-being, physical and moral, of any community, and by the persistent exposure of which the *Dewsbury Reporter* has acted in the best interests of the town.

MANCHESTER'S NEW HOSPITAL.

ON Monday, Oct. 9th, the Countess of Derby laid the foundation stone of the new St. Mary's Hospital and Manchester and Salford Lying-in Hospital and Dispensary for Women and Children. When the project of building the new hospital was first started some opposition was made to the proposal on account of the site chosen and difficulties also arose, it will be remembered, in connexion with the conditional gift of the Lewis trustees. These troubles have now, we hope, passed away and everyone, we feel sure, will wish success and prosperity to the new hospital. The old institution was founded in 1790, but the hospital has been moved from time to time and has now become quite inadequate in size to deal with the immense calls upon its resources. Hence the magnificent new building for the designs of which Mr. Alfred Waterhouse, R.A., is responsible. The conspicuous features of the elevation are the large circular ward block of the maternity department, the lines of which are reminiscent of the circular wards constructed by the same architect for the Liverpool Royal Infirmary, the octagonal tower, and the sanitary turrets attached to the circular ward and to the rectangular ward. The new hospital will be fitted for 125 patients, the larger portion being reserved for diseases of women. Further accommodation will be provided inside the buildings for the training of medical students, nurses, midwives, and monthly nurses. For the completion of the new structure £11,000 are still required.

INOCULATION OF SCARLET FEVER.

A REMARKABLE article on the above subject by the late Mr. Joseph William Stickler, M.S., M.D., of Orange, New Jersey, U.S.A., is published in the *New York Medical Record* of Sept. 9th, 1899. A footnote explains that the manuscript was found among the papers of the deceased physician. The material for inoculation was obtained from the throat and mouth of a patient who had a mild attack of scarlet fever. The cases inoculated were 10 in all and all recovered. The effect of inoculation was generally to produce sickness, diarrhœa, rise of temperature but not very high, some sore throat, and general desquamation, but intense desquamation and sometimes abscess at the seat of inoculation. The author in a note explains that he had hoped

[1] THE LANCET, July 29th, 1899, p. 286.

to find a protective virus in the inoculated mucus, but finding in each case that genuine scarlet fever developed with, in one or two cases, nephritis, he desisted. The cases seem to have been of a somewhat less severe type and of shorter duration than those occurring naturally, but the difference was obviously not such as to warrant the continuance of the very questionable experiment, to say nothing of the multiplication of cases, each doubtless capable of conveying the disease. We record the experiments, but we cannot extend to them our approval or understand the principle on which they could be justified. The average duration of the period of incubation from the time of inoculation was 32 hours and 13 minutes, but it varied much, from 12 hours to 72 hours.

THE WORKING OF THE ISOLATION HOSPITALS ACT IN WALES.

WHEN the Isolation Hospitals Act of 1893 came into operation the Glamorgan County Council was one of the first of the county authorities to take steps to enforce the provisions of the Act. An Isolation Hospitals Committee was formed and the county medical officer reported upon the accommodation which existed for the isolation of infectious cases within the administrative area of the county. Only nine of the 28 districts in the administrative county had provided isolation accommodation before the Act was passed. In some of these the number of beds available was totally inadequate to the needs of the locality and in two there was provision only for small-pox. Since 1893 in two districts small-pox hospitals have been erected and hospitals for other infectious diseases have been provided in two other districts. According, however, to a table appended to the last annual report of Dr. Williams, the county medical officer, it does not appear that much use was made last year even of the existing institutions, for in the 13 districts possessing hospitals only four received patients during the year. Four small-pox patients were treated in the Barry Hospital, 40 patients—with what disease is not stated—in the Merthyr hospitals, nine typhoid fever patients in the Mountain Ash hospitals, and 49 in the Rhondda hospitals. It was certainly from no lack of patients that the hospital wards in other districts remained unoccupied. To give two instances only, at Aberdare, where there is a population of about 50,000, scarlet fever, diphtheria, and typhoid fever were prevalent nearly the whole year, while at Briton Ferry there was in the early part of the year a very severe epidemic of scarlet fever, and although there is an isolation hospital in each of these towns, according to Dr. Williams's report, no use was made of them during 1898. The Sanitary Committee of the county council are evidently determined to exercise the powers which they possess under the 1893 Act and to enforce them in those districts where the local authorities show a decided disinclination to carry out their duties. The committee have decided to make compulsory orders in the cases of Caerphilly and of Oystermouth for the provision of hospitals in these districts and this decision will no doubt have the effect of stirring into activity other councils who have hitherto been proceeding in a very leisurely manner. But the difficulties of the Sanitary Committee will be very much increased if they are to meet with opposition from within their own house, such as was displayed at an inquiry held by the county council on Oct. 5th last at Bridgend. The Bridgend District Council are desirous of erecting a hospital upon land situated about 400 yards from the county asylum, and at the inquiry in question the Asylum Committee opposed the project on the ground that the walks of the asylum patients would be thereby restricted. It is not proposed to admit small-pox patients to the new hospital, and if the 40-feet radius required by the Local Government Board is enforced it is a little puzzling to understand why one committee of the council should place difficulties in the way of carrying out a very desirable scheme which is being pressed forward by another committee of the same body.

THE ADULTERATION OF GOLDEN SYRUP.

FEW articles nowadays seem to escape the subtleties of the adulterator. Perhaps the latest form of adulteration brought to light is the addition of glucose syrup to golden syrup. Glucose syrup is made by the action of acids on maize, starch, or even wood. It contains the characteristic sugar known as dextrose, and this is largely used now as a substitute for malt and cane sugar by vinegar makers, and large quantities of glucose prepared in this way are used by manufacturers of fancy sugars and sweetmeats, while it is even used to adulterate honey. We need not urge again the argument which we are repeatedly bringing forward that the purchaser is entitled to have exactly the article for which he asks. If he asks for cane sugar he should be supplied with cane sugar and not with a substitute; for olive oil he should not be given cotton-seed oil; nor should any other fat be supplied when he distinctly asks for butter; and so on almost *ad infinitum* and, we may add, *ad nauseam*. It is pretty certain, moreover, that the dietetic value of substitutes in general is inferior to that of the genuine article, and we have little doubt that this is so in regard to glucose and true golden syrup. It is probable that the dietetic qualities of the constituents of golden syrup which are all derived from pure cane sugar are more wholesome than the sugars chemically derived from starch and woody fibre. Recent revelations have shown that frequently golden syrup consists of equal amounts of the two sugars. We trust that a sharp look-out will be kept upon this form of adulteration, since golden syrup is a favourite adjunct to food among the poor, and, further, it is decidedly nutritive itself, being quite soluble and giving little trouble to the digestive organs. It is scandalous that a pleasing and cheap article of food should be tampered with in this manner.

MEDICAL REGISTRATION.

WE have frequently drawn attention in the columns of THE LANCET to the importance of every registered practitioner duly sending to the branch registrar by whom he was originally registered notice of any change in his address, in order that such change may be duly inserted in the Medical Register. It is also necessary that he should at once answer any letter of inquiry that may be sent to him in regard thereto. The Medical Register is an important volume to every member of the medical profession, and although in our opinion those responsible for its production have not always taken every means in their power to secure its accuracy, still it is the duty of all medical men to help the General Medical Council in their valuable compilation. Any information, therefore, that can be given to the Registrar will be welcomed, and by conforming to the notice as given in the advertisement columns of THE LANCET of July 29th, 1899, great aid will be rendered in making the Register a reliable one. Another point that should be remembered is that if the request of the Registrar be not complied with the practitioner is liable to have his name erased from the Medical Register and in consequence to lose the right to hold certain appointments, to sign valid certificates, or to recover in any court of law charges for professional advice, &c. Carelessness in the matter, therefore, may lead to serious future consequences. A word of warning, also, we would give to practitioners, and that is, in engaging an assistant or locum-tenent they should refer to the Medical Register to ascertain if the person applying

for the post is actually qualified and registered, and if the name does not appear in the Register should make due inquiries into the reasons for omission. Unscrupulous individuals occasionally attempt to take advantage of the inaccuracies of the Register to perpetrate frauds upon unsuspecting practitioners. If every medical man keeps the entry referring to himself accurate and up-to-date such frauds will be difficult—though not impossible.

INFANTILE GENERAL PARALYSIS SIMULATING IDIOCY.

DR. TOULOUSE and Dr. Marchand in a recent communication at the Société Médicale des Hôpitaux (June 23rd, 1899) state that the fact that a form of dementia closely resembling general paralysis may occur in young children is becoming more and more generally admitted, but according to them one point has not received sufficient attention—that is, that many cases of general paralysis occurring in the very young are often mistaken for cases of idiocy. They report the case of a child who after a short period of apparently normal growth and development began to manifest signs of progressive dementia. There were epileptiform convulsions, inequality of the pupils, disturbances and indistinctness of articulation, and a rapid emaciation followed by death. A necropsy was made, and the post-mortem findings showed the presence of cerebral atrophy of the convolutions, adhesion of the pia-arachnoid membranes with tearing and decortication on attempts to strip them off, proliferation of the neuroglia cells, atrophy of the nerve-cells, and other changes known to be characteristic of chronic diffuse meningo-encephalitis. It is interesting also to observe as indicating the syphilitic origin of this disease that the child's father had died from general paralysis with syphilis.

THE PATHOLOGICAL MUSEUM OF ST. GEORGE'S HOSPITAL.

THERE is no more important part in the education of the medical student than that which is played by demonstrations of morbid anatomy and of pathology. In the post-mortem room and the pathological museum the more fleeting lessons of the wards gain stability and fix themselves in the student's mind. In the former place he verifies with that keen interest which makes a thing remembered afterwards the true significance of symptoms which he has quite recently been observing, while in the museum he can gaze repeatedly and at leisure upon specimens which recall valuable clinical lessons which could be before his notice in the wards for limited periods of time only. The authorities responsible in our London medical schools are wise, therefore, in the labour and expense which they bestow upon the museums attached to their respective hospitals and we notice with pleasure the exhibition of specimens added to the Pathological Museum of St. George's Hospital during the past year. A large number of these show a comparatively new method of preservation, that by the use of solution of formalin, and provide capital examples of the particular merit of this method—viz., the preservation of the natural colours of the specimen. Formalin has not yet been in use long enough for us to know how lasting the preservation of colour will prove, but it is quite evident from the specimens in the St. George's Museum, some of which were put up two and a half years ago, that the student of the immediate future has a great advantage over his predecessors in the natural appearance of the specimens from which he will study pathology.

THE Middlesex Hospital Society will hold its first meeting this session on Thursday, Nov. 2nd, at 8 P.M., at the hospital. The introductory address will be given by Sir J. Burdon Sanderson. All past or present students of the hospital are invited.

DR. G. V. POORE will deliver the Harveian Oration before the Royal College of Physicians of London on Wednesday next, Oct. 18th.

THE Queen will visit Bristol to open the Royal Convalescent Home on Nov. 15th.

THE WAR IN SOUTH AFRICA.

The Outbreak of War.—The Medical Arrangements with the Field Force.—The "Spartan."

THERE is no need to dwell upon a subject which is uppermost in the minds of all at the present time and has formed, and is still forming, an absorbing topic of conversation and of discussion in every daily journal. We have, of course, nothing to do with the political aspect of the case and consequently are not called upon to enter into any of its controversial elements; nevertheless, everyone must recognise that it is a question which involves matters of paramount importance to this country as an Imperial power, and we may add that so far as our knowledge extends at present there is no reason to doubt that among the vast majority of impartial and fair-minded people the Government is believed to have exercised a large amount of care, patience, and forbearance in their conduct of a very grave and complicated business. Be all this as it may, Parliament has been summoned to meet on Oct. 17th for "the despatch of divers urgent and important affairs," while an ultimatum has been received from the Boers which quite precludes any settlement of the points at issue save by recourse to arms.

The question will be thoroughly threshed out in Parliament and we shall all know whether the Government have the strong case they are supposed to have to urge in support of their policy and in vindication of all that has taken place. Meanwhile there is no possibility of blinking the fact that the position is most serious and that the measures which have been adopted are war measures. The reserve forces have been called out to join the colours, so the case is regarded as one of "great emergency"; all soldiers who would under ordinary circumstances be transferred to the reserve are to be retained in their corps; and mobilisation is an accomplished fact. About 25,000 rejoin their regiments out of the 62,000 reservists included under the Proclamation. The army corps designed for service in South Africa numbers 52,000 officers and men with 114 guns, and this, it must be borne in mind, is exclusive of the troops already in Natal and the Cape Colony or on their way there. It is only a few weeks ago that we estimated that at least 40,000 or 50,000 troops would be required and the estimate was received with some incredulity; whereas Sir Redvers Buller will have command of a total force probably numbering 70,000 and upwards, instead of 40,000 or 50,000. If war is inevitable then it is imperative that our force should be overwhelming; it is the best, wisest, and most merciful course that can be adopted. In respect of size, quality, and equipment with all the appliances and inventions of modern warfare, no such army as that of which Sir Redvers Buller will have supreme command has ever left our shores. There is no risk on this occasion of our having undervalued the fighting powers of our foes. The fact is that the Boers—brave as they are—have not the organisation, the military training, or the experience on field service to warrant the belief that they can in actual warfare successfully contend against British troops. What happened before has really no relevancy or pertinence at the present time and under the present conditions. On previous occasions when the Boers were successful the circumstances were altogether peculiar and exceptional, and no doubt existed in the minds of those in military command in South Africa at the time that there was an ample British force in the country to bring the war to an end with a very different result to that which it had

when peace was concluded for political and not military reasons. No one can now doubt, we think, that had the war been prosecuted to a successful conclusion and magnanimous terms been then offered to the Boers we should have had none of the difficulties that have followed since, but we might have had the Boers as friends and allies instead of foes, whereas on grounds of morality and justice peace was concluded and our magnanimity has not, to say the least, been fruitful of the amity and good results that were so confidently anticipated.

Up to the reception of the ultimatum from the Boer Government peace was not impossible; now it is, and it is the Boers who have had recourse to the sword, the arrogant and dictatorial tone of the ultimatum leaving this nation absolutely no choice. The war on which we are entering will, no doubt, call for great sacrifices of money and life, but it cannot now be avoided. The point with which we as medical journalists are chiefly concerned is that every possible care should be taken of our sick and wounded soldiers.

The medical service provisions and arrangements for the forthcoming Transvaal expedition are based upon the general lines and scales laid down in the Army Medical Regulations for active service in the field, supplemented by the aid of the various Red Cross societies of this country. There will be stationary, general, and base hospitals where required, base and advanced medical stores depôts, hospital ships, a large nursing staff, field hospitals, bearer columns, and all the appliances and agencies adapted to field hospital service—all under the command of officers of the Royal Army Medical Corps. In order to obtain the requisite strength of medical officers for the purpose the places of those proceding on service in South Africa will be to some extent filled up by the employment of members of the civil profession at home, to whom special rates of pay will be given while so employed.

The great difficulty in all campaigns is transport—animal, vehicular, and other; and we do not doubt that the apparent delay which has arisen in sending off the expeditionary force has been occasioned by the time that has been necessarily consumed in providing an adequate amount of land transport. There is, of course, no good in landing a large army in a country without providing it with the necessary means for its movement and military operations. We trust that on this occasion the medical service will have ample transport entirely at its disposal for the work which it will have to do. Nothing cripples a service more than an inadequate amount of transport for its requirements. The rehearsing of our mobilisation schemes on a large scale such as this has been is an excellent test and experience for future guidance. The cost of the Transvaal expedition must in any case be enormous. Every soldier and everything required for field service has to be packed, embarked, shipped, and disembarked. There is probably no other country in the world that could do it.

Owing to the prevalence of enteric fever in Natal every man ordered for service has been given the option of being inoculated with anti-typhoid serum and 70 per cent. of the troops have accepted the offer.

FIELD FORCE FOR SERVICE ABROAD.

For the Natal Field Force under the command of Lieutenant-General Sir G. S. White, V.C., G.C.B., G.C.S.I., G.C.I.E., there will be:—Principal Medical Officer: Lieutenant-Colonel R. Exham, Royal Army Medical Corps. Medical Officer: Major J. F. Bateson, M.B. Edin., Royal Army Medical Corps.

On the staff of the 1st Army Corps.—General Officer Commanding Army Corps (General-Commanding-in-Chief): General Right Hon. Sir R. H. Buller, V.C., G.C.B., K.C.M.G. Principal Medical Officer: Surgeon-General W. D. Wilson, M.B. Dub. Medical Officers: Major W. G. A. Bedford, M.B. Durh., Royal Army Medical Corps; Captain M. L. Hughes, Royal Army Medical Corps.

1st Army Corps—1st Division.—General Officer Commanding (Lieutenant-General on Staff): Lieutenant-General P. S. Lord Methuen, K.C.V.O., C.B., C.M.G. Principal Medical Officer: Colonel E. Townsend, C.B., M.D. R.U.I., Royal Army Medical Corps. Medical Officer: Major C. H. Burtchaell, M.B. Dub., Royal Army Medical Corps.

2nd Division.—General Officer Commanding (Lieutenant-General on Staff): Major-General (local Lieutenant-General) Sir C. F. Clery, K.C.B. Principal Medical Officer: Colonel T. J. Gallwey, M.D. R.U.I., C.B., Royal Army Medical Corps. Medical Officer: Major W. Babtie, M.B. Glasg., C.M.G., Royal Army Medical Corps.

3rd Division.—General Officer Commanding (Lieutenant-General on Staff): Major-General (local Lieutenant-General) Sir W. F. Gatacre K.C.B., D.S.O., p.s.c. Principal Medical Officer: Lieutenant-Colonel J. D. Edge, M.D. R.U.I., Royal Army Medical Corps. Medical Officer: Major G. E. Twiss, Royal Army Medical Corps.

Staff of Cavalry Division.—General Officer Commanding (Lieutenant-General on Staff): Colonel (local Lieutenant-General) J. D. P. French. Principal Medical Officer: Lieutenant-Colonel W. Donovan, Royal Army Medical Corps. Medical Officer: Major H. G. Hathaway, Royal Army Medical Corps.

Table showing Officers, Royal Army Medical Corps, detailed for Regimental Units.

Unit.	Present station or place of mobilisation of unit.	Medical officer.
1ST CAVALRY BRIGADE.		
6th Dragoon Guards	Shorncliffe .	Major H. J. Barratt.
10th Hussars	Aldershot ...	,, R. V. A. Phipps.
12th Lancers	,, ...	,, T. J. O'Donnell.
"R" Battery, Royal Horse Artillery.	,, ...	Lieutenant A. L. A. Webb.
2ND CAVALRY BRIGADE.		
1st Dragoons	Hounslow...	Major E. Eckersley.
2nd Dragoons	Edinburgh .	,, A. F. Russell.
6th Dragoons	Curragh ...	,, H. J. Wyatt.
"O" Battery, Royal Horse Artillery.	Aldershot...	Lieutenant A. L. Scott.
1ST INFANTRY DIVISION.		
1ST BRIGADE.		
3rd Bn. Grenadier Guards ...	Gibraltar ...	Captain C. W. Profeit.
1st Bn. Coldstream Guards ...	,,	,, A. W. Hooper.
2nd Bn. Coldstream Guards...	London ..	,, A. F. Heaton.
1st Bn. Scots Guards	,,	,, S. G. Moores.
2ND BRIGADE.		
2nd Bn. Royal West Surrey Regiment.	Portsmouth	Major A. B. Hinde.
2nd Bn. Devonshire Regt. ...	Aldershot...	Lieutenant P. H. Faulkner.
2nd Bn. West Yorkshire Regt.	,,	Lieutenant J. I. W. Morris.
2nd Bn. East Surrey Regt. ...	Woking ...	Major J. Hickman.
DIVISIONAL TROOPS.		
Brigade Division Staff, Royal Field Artillery (7th, 14th, and 66th Batteries).	Aldershot...	Lieutenant E. T. Inkson.
17th Company, Royal Engineers.	,,	,, A. A. Seeds.
2ND INFANTRY DIVISION.		
3RD BRIGADE.		
2nd Bn. Royal Highlanders ...	Aldershot...	Lieutenant H. E. M. Douglas.
1st Bn. Highland Light Infantry.	Devonport .	Lieutenant T. C. Mackenzie.
2nd Bn. Seaforth Highlanders	Fort George	Major G. E. Moffett.
1st Bn. Argyll and Sutherland Highlanders.	Dublin ...	Captain J. B. Carter.
4TH BRIGADE.		
2nd Bn. Scottish Rifles	Glasgow ...	Major A. S. Rose.
3rd Bn. King's Royal Rifles ...	Kilkenny ...	,, J. J. Gerrard.
1st Bn. Durham Light Infantry.	Aldershot...	Lieutenant J. J. W. Prescott.
1st Bn. Rifle Brigade	Parkhurst...	Lieutenant R. D. Jephson.
DIVISIONAL TROOPS.		
Brigade Division Staff, Royal Field Artillery (63rd, 64th, and 73rd Batteries).	Aldershot...	Lieutenant H. M. Nicholls.
11th Field Company, Royal Engineers.	Aldershot...	Lieutenant A. Chopping.

3RD INFANTRY DIVISION.

5TH BRIGADE.		
1st Bn. Royal Inniskilling Fusiliers.	Mullingar.	Major J. H. Brannigan.
2nd Bn. Royal Irish Rifles ...	Belfast ...	,, J. M. F. Shine.
1st Bn. Connaught Rangers ...	Athlone ...	,, J. H. Curtis.
1st Bn. Royal Dublin Fusiliers	Curragh ...	Lieutenant L. N. Lloyd.
6TH BRIGADE.		
2nd Bn. Royal Fusiliers	Aldershot...	Lieutenant H. F. Hart.
2nd Bn. Royal Scots Fusiliers	,,	,, H. B. Onrët.
1st Bn. Royal Welsh Fusiliers	Pembroke Dock... ...	Major B. L. Mills.
2nd Bn. Royal Irish Fusiliers	Colchester .	,, C. W. Johnson.
DIVISIONAL TROOPS.		
Brigade Division Staff, Royal Field Artillery (74th, 77th, and 79th Batteries).	Coventry ...	Lieutenant E. E. Ellery.
12th Field Company, Royal Engineers.	Aldershot...	,, O. W. A. Elsner.

CORPS TROOPS.

13th Hussars	Aldershot...	Major F. J. Lambkin.
Brigade Division Staff, Royal Horse Artillery ("G" and "P" Batteries).	Woolwich*..	Lieutenant G. G. Delap.
Brigade Division Staff, Royal Field Artillery (4th, 38th, and 78th Batteries).	,,	,, L. R. L. Parker.
Brigade Division Staff, Royal Field Artillery (37th, 61st, and 65th Batteries).	,,	Lieutenant W. W. Scarlett.
"A" Pontoon Troop, Royal Engineers.	Aldershot...	Lieutenant S. G. Butler.
26th Company Royal Engineers.	,,	,, L. F. F. Winslow.
1st Bn. Royal Scots	Belfast ...	Major R. P. Hethering-ton.

LINES OF COMMUNICATION.

2nd Bn. Northumberland Fusiliers.	Portsmouth.	Major W. B. Day.
2nd Bn. Somersetshire Light Infantry.	Portland ...	Captain R. H. E. Holt.
2nd Bn. Duke of Cornwall's Light Infantry.	Devonport .	Lieutenant H. S. Anderson.
1st Bn. Welsh Regt....	Aldershot .	Lieutenant L. Wood.
2nd Bn. Northamptonshire Regt.	,,	,, R. L. Munn.
2nd Bn. Shropshire Light Infantry.	,,	,, E. P. Connolly.
1st Bn. Gordon Highlanders...	Edinburgh .	Captain P. J. Probyn.

* Mobilises at London.

Table showing the Officers of the Royal Army Medical Corps detailed to Bearer Companies and Field Hospitals.

Unit.	Allotment in field force.	Names of officers.
A.—BEARER COMPANIES.		
2nd Cavalry Brigade Bearer Company.	2nd Cavalry Brigade.	Major E. North. Major R. J. Copeland. Captain H. J. M. Buist.
No. 1 Bearer Company.	1st Brigade	*Major H. J. R. Mooerly. *Captain T. B. Beach. Lieutenant J. B. Hodgson.
No. 3 Bearer Company.	3rd Brigade... ...	Major R. G. Hanley. Captain C. W. B. Healey. Lieutenant M. H. G. Fell.
No. 4 Bearer Company.	2nd Brigade... ...	Major J. D. T. Reckitt. Lieutenant A. O. B. Wroughton. Lieutenant F. J. Palmer.
No. 8 Bearer Company.	5th Brigade... ...	Major S. Townsend. Captain E. M. Morphew. Lieutenant G. C. Phipps.
No. 9 Bearer Company.	4th Brigade... ...	Major E. O. Milward. Lieutenant J. W. Houghton. Lieutenant J. W. Laugstaff.
No. 11 Bearer Company.	1st Cavalry Brigade	Major A. B. Cottell. Major H. C. Thurston. Captain H. D. Mason.
No. 12 Bearer Company.	6th Brigade... ...	Major L. Haywood. Captain J. D. Alexander. Lieutenant T. C. Lauder.
B.—FIELD HOSPITALS.		
No. 1 Field Hospital.	1st Brigade	Surgeon-Lieutenant-Colonel J. Magill. Surgeon-Major E. N. Sheldrake. Surgeon-Major W. R. Crooke-Lawless. Surgeon-Major W. C. Beevor. Quartermaster and Honorary Captain T. Phillips.
No. 3 Field Hospital.	2nd Brigade... ...	**Major J. C Culling. Captain H. J. Parry. Captain J. W. Jennings, D.S.O. Lieutenant J. W. Leake. Quartermaster and Honorary Lieutenant H. Spackman.
No. 6 Field Hospital.	2nd Cavalry Brigade.	Major T. W. O'H. Hamilton. Major F. J. Greig. Captain H. E. Dowse. Lieutenant G. H. Irvine. Quartermaster and Honorary Lieutenant E. Thowless.
No. 7 Field Hospital.	Divisional Troops, 1st Division.	*Major F. A. Harris. Major R. P. Bond. Lieutenant G. M. Goldsmith. Lieutenant R. S. Rodger. Quartermaster and Honorary Lieutenant J. H. W. Beach.
No. 9 Field Hospital.	4th Brigade... ...	Major G. T. Goggin. Major F. S. Heuston. Lieutenant J. G. Gill. Lieutenant G. J. A. Ormsby. Quartermaster and Honorary Lieutenant R. Adams.
No. 10 Field Hospital.	3rd Brigade... ...	Major S. C. B. Robinson. Major H. J. Peard. Lieutenant N. J. C. Rutherford. Lieutenant H. D. Packer. Quartermaster and Honorary Lieutenant J. C. B. Whitehorn.
No. 11 Field Hospital.	1st Cavalry Brigade.	Major D. L. Irvine. Major A. E. Tate. Captain F. J. W. Porter. Lieutenant H. K. Palmer. Quartermaster and Honorary Lieutenant C. F. Dear.
No. 15 Field Hospital.	5th Brigade... ...	Major G. H. Younge. *Major F. T. Wilkinson. ‡Captain B. N. Pitcher. ‖Lieutenant G. Harvey. Quartermaster and Honorary Lieutenant J. Hirst.
No. 16 Field Hospital.	Divisional Troops, 3rd Division.	Major A. T. I. Lilly. Major F. W. H. D. Harris. §Lieutenant L. Humphry. Lieutenant V. J. Crawford. Quartermaster and Honorary Lieutenant D. Gallas.
No. 17 Field Hospital.	6th Brigade... ...	Major C. W. Thiele. Major J. B. W. Buchanan. Captain N. Faichnie. Lieutenant D. E. Curme. Quartermaster and Honorary Lieutenant M. Hewitt.
1st Corps Troops, Field Hospital.	Corps Troops, 1st Army Corps.	¶Major A. Baird. Major J. Paterson. Captain F. W. Begbie. Lieutenant R. H. Lloyd. Quartermaster and Honorary Lieutenant E Lines.
2nd Divisional Field Hospital.	Divisional Troops, 2nd Division.	Major H. W. Murray. Major G. Coutts. Lieutenant G. H. Goddard. Lieutenant R. A. Cunningham. Quartermaster and Honorary Lieutenant A. Finley.

† From the Dublin District. ‡ From the Royal Arsenal.
§ From the Aldershot District. ‖ From Netley.
¶ From the Western District.

STAFF LINES OF COMMUNICATION.

Principal Medical Officer.—Colonel W. F. Stevenson, M.D., Royal Army Medical Corps.

Secretary and medical charge of Staff.—Major G. H. Sylvester, Royal Army Medical Corps.

ROYAL ARMY MEDICAL CORPS.

Stationary Hospital, No. 1.—Lieutenant-Colonel R. W. Mapleton,* in charge.

Stationary Hospital No. 2.—Major H. D. James, in charge.

Stationary Hospital No. 3.—Major T. A. P. Marsh, in charge.

Stationary Hospital No. 4.—Major R. Kirkpatrick, in charge.

General Hospital No. 1.—Lieutenant-Colonel A. H. Anthonisz,* in charge; Lieutenant-Colonel H. Grier, Registrar and Secretary.

General Hospital No. 2.—Colonel A. W. Duke, in charge; Major C. J. Addison, Registrar and Secretary.

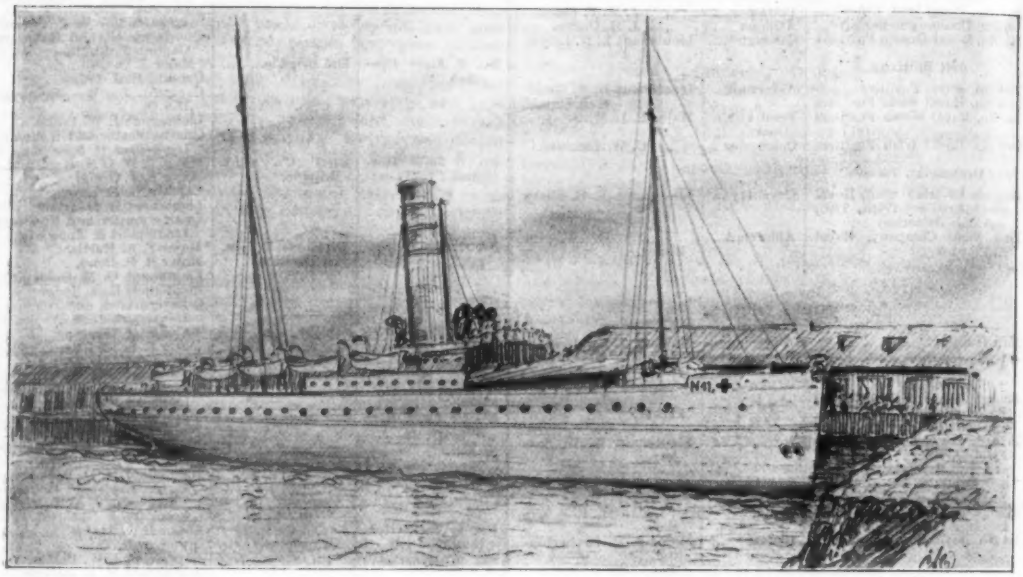
General Hospital No. 3.—Lieutenant-Colonel O'G. Wood, in charge; Major A. Keogh, Registrar and Secretary.

General Hospital No. 4.—Colonel J. A. Clery, in charge; Major T. R. Lucas, Registrar and Secretary.

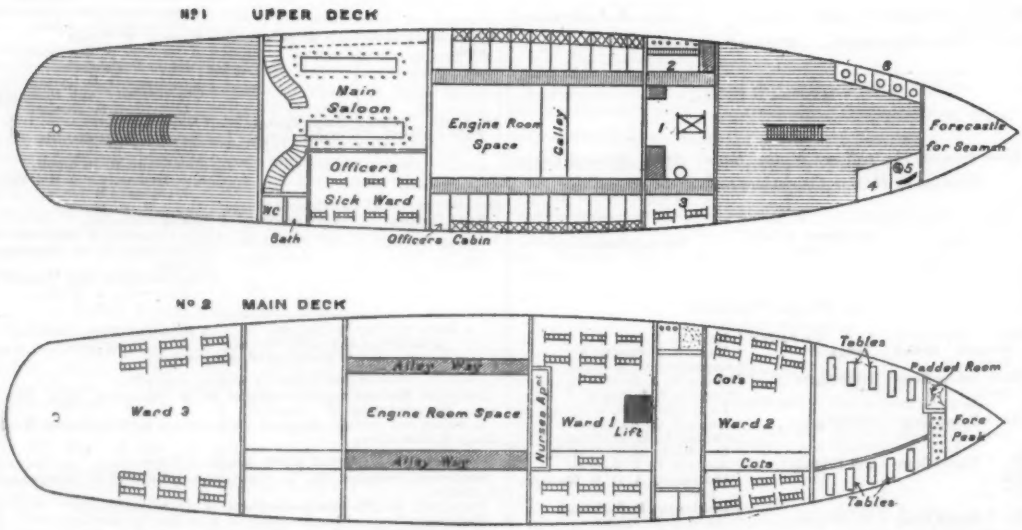
No. 1 Base Depôt Medical Stores.—Major R. J. McCormack.*

No. 2 Base Depôt Medical Stores.—Major R. C. Thacker.

* Already embarked.



The *Spartan*.



Plans of upper and main decks of the *Spartan*.

THE "SPARTAN": A HOSPITAL SHIP.

Possibly the number of men to be employed in the war in South Africa will reach a total of 70,000, so that the fatalities may exceed anything these pages have had occasion to record during the greater portion of the present century. Such being in prospect readers of THE LANCET will naturally be interested to know what provision has been made so far as hospital accommodation and equipment are concerned for the sick and wounded.

The *Spartan*, of which we give three illustrations, is one of two vessels selected for the reception of sick and wounded which was officially inspected on Monday last at Southampton prior to her departure from that port on the following day. The *Spartan*, which belongs to the Union Steamship Company, was built in 1886, and is a good single-screw light-draught vessel of some 2188 registered tons burden. She has a good beam measurement, carries two masts, is single-funnelled, and is propelled by triple expansion engines capable of developing some 600 horse-power. She also possesses a fairly high freeboard which is painted dead white relieved with a narrow yellow streak running fore and aft. There appears to be ample room for convalescents' exercise on the spar deck—an unquestionable desideratum where the comfort of those recovering from injury or sickness is concerned. Forward on the starboard side on the upper deck is a large wooden erection some seven feet high divided by a strong wooden partition into two separate compartments. The after one is intended for the reception of all soiled linen, whilst in the forward one there is a strongly made washing tub and in one corner a large metal steam boiler for the boiling and complete disinfecting of the aforesaid soiled clothes. On the port side forward are the latrines for the use of non-commissioned officers and men belonging to the Royal Army Medical Corps. The drainage from these water-closets (Fig. 6, upper deck) escapes by a pipe through the ship's side and falls directly into the sea from openings just below the closets, and an ample flush is provided. About midships and forward of a space occupied by the engines, galley, and officers' cabins is

The Operating Room,

an apartment 17 ft. long, 13 ft. wide, and 7 ft. in height, formerly the second-class smoking-room (Fig. 1, upper deck). The sides and top are painted a light French-grey colour and the floor is dark-oak stained and well varnished, upon which are laid several strips of clean duck canvas, giving to the whole place a cleanly and fresh appearance. In the centre of the apartment stands the operating table. The lighting is furnished by several electric lamps. There is no skylight, but there is a window at the fore end protected by several brass rods. This gives but a dim and uncertain light and does not open, and although this defect would be of slight consequence during an ocean passage the want of more light, and certainly of more air, will be felt when the *Spartan* is moored alongside a pier, especially during the sultry days of the summer season on the Durban coast. There is, however, an electric fan.

A large supply of instruments has been provided. These were severally examined and so far as our inspection went disclosed the absence of hardly any recognised surgical instrument. Several instruments might with advantage have been excluded from the list, as they are decidedly out-of-date in a major operating case of the present time. Again, we should have expected the inclusion of a Roentgen ray apparatus, but such was conspicuous by its absence; however, its use on board a sick transport would possibly be problematical, considering that the majority of the operations will be undertaken on shore at the field or base hospital where an equipment of this kind is provided. On a shelf handy for use is a large glass receptacle fitted with tubing and tap; this will contain antiseptic solution for disinfecting purposes. On the opposite side of the room is a complete metal apparatus for sterilising, with electric and spirit lamps. Although it is always advisable as far as possible to avoid using spirit lamps on board ship, every care seems to have been taken to ensure safety by using chocks to prevent these receptacles overturning and causing an unwelcome conflagration. Abreast of the operating room on the other side of the alley way is

The Dispensary,

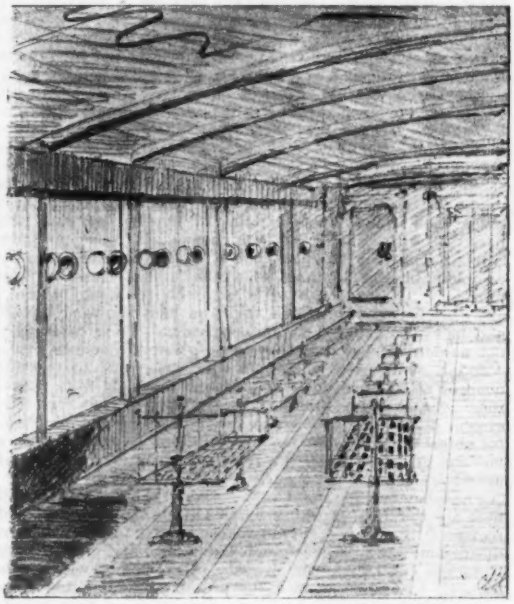
a very roomy and suitably equipped place (Fig. 2, upper deck), which appears to be admirably fitted; length 12 ft. 9 in. by 8 ft. and 7 ft. in height. It is satisfactory to notice, moreover, the safeguarding of some 24 potent drugs by their distinctive red labels ("poison") and by their being separated from their fellows in a locked-up cupboard and well away from the shelves carrying other and less dangerous remedies. The dispensary is lighted by electric lamps and by several scuttles from the outside. These ports can be opened and left so whenever the weather permits. Abaft are situated

The Officers' Sick Quarters.

The apartment measures 45 ft. long, 15 ft. broad, and 7 ft. high, and seems to be a model of luxury and comfort, taking into consideration the very limited space at the disposal of the authorities who fitted it up. The introduction of travelling curtains on horizontal brass rods is a move in the right direction. These screens are so arranged that separate cubicles can be formed for the privacy of an officer whenever it is needed. Adjoining is an invalid's bath-room and 12 ft. removed is the water-closet. Direct and private communication can be maintained with the sick officers without trespassing on the saloon or other parts of the ship. Reference must also be made to

The Sick Wards situated on the Main Deck.

These are three in number. Their length is from 35 ft. to 45 ft. and their width occupies the entire beam of the vessel. (See plan of main deck, Figs. 1, 2, and 3.) In the after ward there are 26 swinging iron cots with metal lattice bottoms and at the fore part of what might be called the main ward (Fig. 1 on plan) containing 15 cots there is a lift for the purpose of lowering or carrying up patients. There is another ward forward containing 19 cots, a total of 60. These wards are



Swinging cots fixed in wards.

lighted by electric lamps and by numerous side scuttles which can be opened or closed at the discretion of the commanding officer and are all provided with electric fans. The main hatch has been left open and in this space two hospital baths on one side and a latrine and dirty utensil rooms on the other have been located. The members of the Royal Army Medical Corps have comfortable and well-arranged quarters, and taken as a whole the *Spartan* seems to have been very well fitted and equipped for the purpose—a temporary one—for which she has been chosen. The authorities are to be congratulated on the remarkable achievement of having transformed a merchant vessel into a floating hospital in the space of eight days.

THE CONFERENCE OF THE HOSPITAL REFORM ASSOCIATION.

A CONFERENCE on hospital reform promoted by the Hospital Reform Association held three sittings at the St. Martin's Town-hall during the week. The first sitting, held on Tuesday afternoon, Oct. 10th, was devoted to the discussion of "The Inquiry System," and the chief paper was read by Mr. DOUGLAS DENT (Bristol). Mr. Dent pointed out that the tendency was for an increasingly large number of people to take advantage of medical treatment at hospitals, which he thought was due to the fact that hospital authorities were too easily satisfied as to the suitability of the patients for treatment. He submitted that it was time to restrict the benefits of charitable medical relief to those for whom alone they were intended and that it was the duty of hospital authorities to conduct a proper inquiry as to the position of their patients, as there was the clearest evidence that cases existed in which hospitals were abused by persons seeking treatment who could afford to pay. He considered that such a system of inquiry would not be hard to carry out.

Mr. HAWKINS-AMBLER (Liverpool) and Dr. ARNOLD W. W. LEA (Manchester) then read papers on the same subject. Mr. Hawkins-Ambler urged the medical profession to take united action to rouse the official world to remedy the present state of affairs. Dr. Lea formulated some practical conclusions, in one of which he allowed that first-aid should be given in all cases, unless the charity was being obviously imposed upon, while he considered that every applicant for relief should be interviewed as to his circumstances by an intelligent and responsible official.

Sir WILLIAM BROADBENT in an effective speech supported the statement of Mr. Dent that the services of the hospitals were given to persons who were not really proper subjects for charitable assistance. He spoke out of his personal experience as a hospital physician. But he did not agree that the medical staff of a hospital when they saw a patient come to them who was not a proper subject for their treatment ought to take upon themselves the duty of inquiry. It was through the methods which the Charity Organisation Society had started, which were efficient and kindly, that, in his opinion, hospitals might come to be relieved of work which should not be put upon them, that a malversation of funds might be prevented, and that the suffering poor might enjoy their rights. The amount of inquiry made at the hospital with which he was connected was to some extent a deterrent of abuse, but it would have to be a very complete inquiry to deal with the abuses more or less prevalent. He had heard of a lady who had stated, without any consciousness of shame, that she had disguised herself and had been relieved as an out-patient. Such cases were not numerous; but that they were possible amounted to a scandal, while cases of people who were able to pay for medical attendance but who misused hospitals were numerous. Sir William Broadbent then pointed out that the system of inquiry adopted at hospitals should be uniform, for unless inquiries were made at all hospitals and made on a uniform principle, a shifting from one hospital to another of unsuitable cases would occur.

The second sitting, held on Tuesday evening, was presided over by the Rev. H. RUSSELL WAKEFIELD, M.L.S.B. and rector of St. Mary's, Bryanstone-square. The subject for discussion was "Payment by Patients," and introducing it to the conference the chairman said that some people thought that abuses might be prevented by making rules under which patients should pay something for treatment. He was occasionally asked to give letters of recommendation by persons who could perfectly well afford to pay a private practitioner, while many well-to-do people always asked for such letters for their servants. For such persons to receive treatment at hospitals was unfair to medical men practising in the poorer districts, and he considered it abominable that such demands should be made. He thought that it would be better for the self-respect of the patients themselves that some little payment should be made for treatment.

Dr. BERTRAM ROGERS (Bristol) read a paper in entire contradiction of this view, saying that he was wholly opposed to the fee system in hospitals.

DR. F. J. WARING (Brighton) detailed the efforts which had been made to suppress hospital abuse in Brighton and Hove.

The third sitting was held on Wednesday afternoon, when Mr. TIMOTHY HOLMES presided. In opening the proceedings Mr Holmes pointed out that he had long held that medical institutions in any neighbourhood should be grouped round and in a sense affiliated with the principal hospital.

Mr. C. H. WARREN, secretary of the Metropolitan Provident Medical Association, read a paper in which he gave a history of the movement with which he was connected and described its working. He said that under the present hospital system a million and a half patients were treated in the out-patient departments and free dispensaries every year. Not counting in-patients, one-third of the population of London applied every year to charity for medical relief. He thought that the provident dispensary movement had a great future before it and that it appealed to the more intelligent section of the working-classes.

Mr. ADOLPHE SMITH, secretary to the British Committee of the Congress of Deontology to be held in Paris next year, said he took this opportunity of calling attention to a congress which would deal internationally with the question of hospital reform and invited all medical men to attend.

Mr. GRISEWOOD, of the Liverpool Charity Organisation Dispensary, deprecated hospitals being attacked, but suggested that every endeavour should be made to interest hospital subscribers in hospital reform.

Mr. BOUSFIELD urged the profession not to look on the question of reform individually as a personal one, but from the point of view of the benefit of the profession at large.

Mr. T. GARRETT HORDER, the secretary of the Hospital Reform Association, read extracts from a paper on Reform in Medical Contract Work by Dr. Richardson Rice (the author not being present), and also a letter from the medical staff of the Coventry Dispensary, in which they complained that untrue statements were circulated about them.

After a few words from Dr. VINRACE a vote of thanks to the Chairman brought the proceedings to a close.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6677 births and 4104 deaths were registered during the week ending Oct. 7th. The annual rate of mortality in these towns, which had decreased in the six preceding weeks from 26 8 to 19·1 per 1000, further declined last week to 18·8. In London the rate was 17·9 per 1000, while it averaged 19·3 in the 32 provincial towns. The lowest death-rates in these towns were 12·1 in Swansea, 13·6 in Huddersfield, 13·8 in Oldham, and 13·9 in Halifax; the highest rates were 24·0 in Manchester, 24·2 in Newcastle, 24·7 in Liverpool, and 25·3 in Salford. The 4104 deaths in these towns included 535 which were referred to the principal zymotic diseases, against numbers decreasing from 1918 to 712 in the six preceding weeks; of these, 233 resulted from diarrhœa, 113 from diphtheria, 80 from "fever" (principally enteric), 45 from measles, 42 from whooping-cough, and 22 from scarlet fever. The lowest death-rates from these diseases were recorded in Croydon, Plymouth, Birkenhead, and Oldham, and the highest rates in Wolverhampton, Salford, Preston, Sheffield, and Hull. The greatest mortality from measles occurred in Nottingham; from "fever" in Portsmouth, Bolton, Halifax, and Sheffield; and from diarrhœa in Wolverhampton, Preston, Hull, Sunderland, and Gateshead. The mortality from scarlet fever and from whooping-cough showed no marked excess in any of the large towns. The 113 deaths from diphtheria included 55 in London, 10 in Leeds, 10 in Sheffield, nine in Leicester, and seven in Birmingham. No fatal case of small-pox was registered last week in any of the 33 large towns, and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, Oct. 7th, was 3003, against numbers increasing from 2538 to 2886 at the end of the five preceding weeks; 461 new cases were admitted during the week, against 336, 364, and 409 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had increased from 133 to 156 in the three preceding weeks, further rose to 215 last week, but were 3 below the corrected average. The causes

of 53, or 1·5 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Nottingham, Manchester, Leeds, Hull, and in 15 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Preston, Sheffield, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had decreased in the four preceding weeks from 20·6 to 18·4 per 1000, further declined to 17·5 during the week ending Oct. 7th, and was 1·3 per 1000 below the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 12·8 in Paisley and 13·5 in Perth to 18·6 in Edinburgh and in Aberdeen and 18·8 in Dundee. The 534 deaths in these towns included 54 which were referred to diarrhœa, 13 to "fever," 11 to measles, eight to scarlet fever, six to diphtheria, and five to whooping-cough. In all 97 deaths resulted from these principal zymotic diseases, against numbers decreasing from 225 to 112 in the four preceding weeks. These 97 deaths were equal to an annual rate of 3·2 per 1000, which was 0·8 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of diarrhœa, which had decreased from 193 to 81 in the four preceding weeks, further declined last week to 54, of which 27 were registered in Glasgow and 11 in Dundee. The deaths referred to different forms of "fever," which had been 11 and nine in the two preceding weeks, rose again to 13 last week, and included 10 in Glasgow. The fatal cases of measles, which had been six and four in the two preceding weeks, rose again last week to 11, of which nine were recorded in Glasgow and two in Leith. The eight deaths from scarlet fever exceeded by three the number in the preceding week and included five in Glasgow. The fatal cases of diphtheria, which had been five and eight in the two preceding weeks, declined again last week to six, of which four occurred in Glasgow and two in Aberdeen. The deaths from diseases of the respiratory organs in these towns, which had been 64 and 67 in the two preceding weeks, declined again to 61 last week, but were 44 below the number in the corresponding week of last year. The causes of 22, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29·8 and 33·3 per 1000 in the two preceding weeks, declined again to 29·2 during the week ending Oct. 7th. During the thirteen weeks ending on Saturday last the death-rate in the city averaged 31·0 per 1000, the rates during the same period being 20·8 in London and 18·8 in Edinburgh. The 196 deaths registered in Dublin during the week under notice showed a decline of 27 from the number in the preceding week, and included 54 which were referred to the principal zymotic diseases, against 51 and 69 in the two preceding weeks; of these, 32 resulted from measles, 16 from diarrhœa, 4 from "fever," two from whooping-cough, and not one either from small-pox, scarlet fever, or diphtheria. These 54 deaths were equal to an annual rate of 8·1 per 1000, the zymotic death-rate during the same period being 1·9 in London and 1·7 in Edinburgh. The fatal cases of measles, which had increased from 14 to 28 in the five preceding weeks, further rose to 32 last week. The deaths from diarrhœa, which had been 20 and 27 in the two preceding weeks, declined again last week to 16. The 4 fatal cases of "fever" showed a marked decline from the number in the preceding week. The mortality from whooping-cough corresponded with that in the preceding week. The 104 deaths in Dublin last week included 46 of infants under one year of age, and 34 of persons aged upwards of 60 years; the deaths of infants showed a slight decline from, while those of elderly persons were identical with, the numbers in the preceding week. Nine inquest cases and four deaths from violence were registered, and 58, or nearly a third, of the deaths occurred in public institutions. The causes of 9, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeons: James O'B. Williams to the *Magnificent;* Robert W. Williams to the *Vivid* and for the Royal Naval Barracks; and Stewart F. Hamilton to the Royal Marine Artillery, Eastney. Staff-Surgeons: Herbert Canton to the *Jupiter;* A. J. Pickthorn to the *Magdala;* and W. G. Stott to the *Marathon.* Surgeon: F. A. Capps to Haslar Hospital.

ROYAL ARMY MEDICAL CORPS.

Captain C. C. Fleming, D.S.O, from the Seconded List, to be Captain, vice H. A. Berryman, placed on temporary half-pay. Captain John Furse McMillan, half-pay, is placed on retired pay.

Colonel A. W. Duke, Principal Medical Officer, North-Western District, is appointed to the Charge of No. 2 Station Hospital in Natal. Colonel E. Townsend, C.B., is appointed Principal Medical Officer, Belfast District, on promotion, vice Colonel J. H. Moore. Colonel W. J. Charlton is appointed to Aldershot for duty on promotion. Major E. M. Wilson, C.M.G., D.S.O., succeeds Major W. G. A. Bedford as Deputy Assistant-Director, Army Medical Staff, at headquarters.

YEOMANRY CAVALRY.

Leicestershire (Prince Albert's Own): Mr. Walter Wingfield Nuttall has been appointed Surgeon-Lieutenant.

VOLUNTEER CORPS.

Rifle: The Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment): Brigade-Surgeon-Lieutenant-Colonel P. H. Watson retires, with permission to retain his rank. 7th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Major J. B. Ronaldson to be Surgeon-Lieutenant-Colonel. 1st Volunteer Battalion the King's (Liverpool Regiment): Surgeon-Captain W. E. Crozier resigns his commission. 3rd Volunteer Battalion the Prince of Wales's Own (West Yorkshire Regiment): Brigade-Surgeon-Lieutenant-Colonel J. S. Loe retires, with permission to retain his rank.

THE HEALTH OF THE DUTCH NAVY.

The annual report on the sanitary condition of the Dutch Navy for 1898 has been issued by the Inspector-General of the Medical Department (Dr. Gijsberti Hodenpijl), the document, as usual, being divided into two parts, dealing respectively with the home and East Indian fleets. On the home establishment the average strength was 6171 of all ranks. 7071 cases of illness were treated and 30 deaths took place, the ratios in each instance being 1145 and 4·86 per 1000. Venereal affections were responsible for about one-fifth of the whole disability. Deducting four suicides and four accidental deaths from the total the death-rate from disease remains 3·56 per 1000. Five of the fatal cases were due to phthisis pulmonalis and three to beri-beri, the last-named disease having been acquired in the East Indies. The above-noted strength includes 1096 men who formed the crews of vessels which were stationed in West Indian waters and elsewhere out of Holland, but is exclusive of the East Indian fleet. The admissions and deaths in this category were at the rate of 1606 and 3·65 per 1000 respectively. The average strength in the East Indian command was 2663 Europeans and 1165 natives. Among the former the admissions and deaths were at the rate of 1527 and 13·14 per 1000, and among the latter at the rate of 1400 and 43 per 1000. The chief cause of mortality among the Europeans was cholera to which 18 deaths were due. Among the natives beri-beri as in previous years, was most fatal. As in Europe, about one-fifth of the admissions to hospital was caused by venereal disease.

LEAN'S ROYAL NAVY LIST.

The eighty-eighth quarterly issue of this admirable list, brought up to date, containing war and meritorious services of officers of the Royal Navy and Royal Marines, famous battle ships, dates of commissions and retirements, medals, decorations, honours, &c., the *Gazette* account of Victoria Cross and societies' medals, dates of birth of flag officers, captains, and officers of Royal Marines, fellowships of the learned societies, and other titles, many private appointments held by retired officers, causes of special promotion, prizes, examinations passed, relative army rank and compulsory retirement at head of each rank, special list of ships

building, &c., has just been published. Messrs. Witherby and Co., 326, High Holborn, W.C., and 4, Newman's-court, Cornhill, E.C., are the publishers.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the Directors of the Naval Medical Supplemental Fund, held on Oct. 10th, Inspector-General W. H. Lloyd being in the chair, the sum of £40 was distributed among the several applicants.

THE TRANSVAAL CRISIS.

In another column of our present issue will be found a detailed account of the arrangements with regard to the disposition of army medical officers for South African service.

The excellent way in which the Union Steamship Company's *Spartan* has been transformed into a hospital ship is also fully described elsewhere. Her sister ship, the *Trojan*, is being fitted up for a like purpose and will be ready to start for South Africa in a few days.

THE RED CROSS SOCIETY.

Lord Wantage, the chairman of the Central British Red Cross Committee, has issued an appeal for contributions. The following donations are announced:—Messrs. Rothschild, £5000; Messrs. Werner, Beit, and Co., £5000; Messrs. Newman, £1500; the Duke of Westminster, £1000; Lord Wantage, £1000; H. L. Bischoffsheim, Esq., £500.

CIVIL PRACTITIONERS FOR MILITARY SERVICE.

The number of applications in response to the advertisement for civilian medical practitioners for temporary service with troops in consequence of the departure of army medical officers to South Africa has been so large that no further applications can be considered.

On Oct. 21st the Lord Mayor will receive for custody the Ambulance Challenge Shield of the Volunteer Medical Association, won at the last contest by the 3rd (Bermondsey) Volunteer Battalion of the West Surrey Regiment.

Correspondence.

"Audi alteram partem."

"THE WORKMEN'S COMPENSATION ACT, 1897."

To the Editors of THE LANCET.

SIRS,—Since the appearance of the above-named paper in THE LANCET of Sept. 30th I have had the advantage of receiving the opinions of many barristers, solicitors, and medical men well qualified to form judgments on the points raised. There is a general consensus of opinion that the workman should be bound to send a medical certificate clearly and concisely stating the nature and extent of the injury and whether the claimant is suffering from any disease likely to affect the duration of his disability. It is also agreed that the workman should not be made to pay for these certificates, but that the Home Office should devise regulations for the necessary payments by the Government.

It has been pointed out to me that the payment of half wages under the Workmen's Compensation Act during the progress of litigation as to whether there was liability under the Employers' Liability Act might be an incentive to such litigation and cause endless trouble and annoyance to employers. I do not, however, believe that the legal profession is incapable of formulating proper safeguards and regulations so that these payments may be received by the *bonâ-fide* sufferer from accident at the time named by the Workmen's Compensation Act and privation and suffering prevented and early recovery aided without prejudice to the employer. I have received many opinions on the question of the present medical referees or of the appointment of medical assessors as I have ventured to suggest. From what I learn, although medical assessors sitting with a judge would be of the greatest advantage to the proper administration of justice, yet it is felt that they would be in a quasi-judicial position and that therefore they should be appointed from the ranks of consultants, not from those of general practitioners. The reason of this feeling being widespread is that it certainly would lead to friction if a medical man in general practice in a district was to sit in judgment and authoritatively decide upon the views advanced by men practising in opposition to himself when they had given evidence as medical witnesses. It is considered generally that the appointment of consultants of standing as medical assessors would command the approval of the profession and be advantageous from every point of view.

I am, Sirs, yours faithfully,

Oct. 9th, 1899. ALBERT BENTHALL, F.R.C.P. Edin., &c.

THE HUNTER CASE.

To the Editors of THE LANCET.

SIRS,—I am directed to state that the Society of Apothecaries has obtained the opinion of Sir E. Clarke, Q.C., M.P., on this case and to inform you that he "is of opinion that the L.S.A. (1886) is entitled to describe himself as 'physician' or 'surgeon' or both, and that the Society of Apothecaries is justified in so advising its Licentiates notwithstanding the decision in the case of Hunter *v.* Clare." Sir E. Clarke "is further of opinion that should the question again be raised in the Courts the case of Hunter *v.* Clare would not of necessity be held to be a binding authority on this point inasmuch as the conviction of the appellant was quashed on other grounds and the opinions expressed by the Court as to the rights of the L.S.A. were under the circumstances immaterial to the issue."

The Society of Apothecaries had previously obtained the opinion of Mr. Haldane, Q.C., M.P., that the decision of the Queen's Bench Division of the High Court was erroneous. In view of the opinions of these eminent counsel who concur in regarding the present state of things as unsatisfactory the Society has addressed an official communication to the President of the General Medical Council inviting the coöperation of the Council in having the questions at issue retried in some form to be agreed upon and the matter authoritatively set at rest.

I am, Sirs, your obedient servant,

JAMES R. UPTON.

Society of Apothecaries, London, E.C., Oct. 9th, 1899.

RARE (?) COMPLICATIONS OF TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—In several recent annotations you have called attention to the "rare" complications of typhoid fever which have been recorded in England and elsewhere. The two most recent instances are "suppurative orchitis" and "multiple ulcers of the vulva." With all due deference to the expressions of authorities as to the respective rarity of the various complications of this disease I venture to think that even the rarest are constantly met with by physicians, although they may not be reported. The result is that a few authorities publish a series of cases and reckon the rarity of complications by their own series, taking perhaps into their calculations the few cases which from time to time are reported by others.

In support of my statement I may mention that within the last two or three years I myself have attended patients with typhoid fever complicated with "suppurative orchitis" (one case) and "hæmorrhage under the skin" (two cases, while I have lately known of a third). At the present time I have a young man in the fourth week with hemiplegia (right-sided with aphasia) from cerebral thrombosis, also a young lady who developed ulcers on the mucous surfaces of the labia majora and on the labia minora in the second week. Here in a short period and in a comparatively small series (about 60 cases) are seen some of the supposed rarest complications.

I could mention other interesting conditions met with in the same period, such as typhoid fever in a woman seven months pregnant without abortion, &c. I may have been fortunate in seeing these "rarities," but I fancy there are many others equally fortunate. Most people, especially those who see most, do not care about rushing into print with every unusual isolated case, hence the "rarity" of the unusual. It has occurred to me that if THE LANCET and *British Medical Journal* each had a page for weekly observations—each note not to exceed two or three lines, with, if you like, the name of the observer—then we should soon have a valuable basis on which to establish our statistics.

for no one would hesitate to send a note where a "paper" might be considered superfluous.

I am, Sirs, yours faithfully,
W. BLAIR BELL, M.B. Lond., &c.

Wallasey, Oct. 10th, 1899.

"A MODIFICATION OF THE ARONSON AND PHILLIPS STAINING METHOD AND ITS APPLICATION IN THE CASE OF MALARIAL BLOOD."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Sept. 30th, p. 889, Mr. Edward G. Horder has written a short clinical note upon the staining of malarial blood. In connexion with this subject he puts his remarks under three headings—the preparation of the cover, the heating, and the staining. Under the first of these headings he introduces what he appears to think a novelty—that is, the application of Manson's smearing method to cover-slips. May I be allowed to point out that this same application was described in a paper by Dr. R. Howard and myself in the *Journal of Tropical Medicine* for February, 1899? Under his second and third headings he makes statements with which we cannot agree. The methods of fixing and staining which he describes may be enough for pigmented parasites—whicht by-the-bye, can be seen without staining—but they are no, satisfactory for the purposes of research.

In our paper we give an account of the various methods we have employed, and as a matter of fact we have tried both his method of fixing and that of staining and we discarded them as useless because of their coarseness. We have laid it down, as others have done before us, that it is impossible to be too accurate in staining blood films which may contain a few young parasites, and we are quite convinced that with the rough-and-ready methods which Mr. Horder describes for fixing and staining it would be impossible to find one or two young quartan parasites. If I might be allowed to say so, his methods are no improvement upon those described by Dr. Gerrard in THE LANCET of June 3rd, 1899, p. 1490.

I am, Sirs, yours faithfully,
Guy's Hospital, Oct. 7th, 1899. WALTER C. C. PAKES.

"THE MEDICAL REGISTER."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of July 1st, recently to hand, your correspondent "Col., R.A.M.C." points out with surprise that the name of Sir Samuel Rowe, who has been dead for a number of years, still appears on the Medical Register. Some time ago, on looking over the Register for 1896, I discovered that my name had been omitted and thereupon I wrote to the General Medical Council asking why and that it might be reinstated. In reply the reason assigned was that a communication had been sent to my former address in Ireland and no answer thereto having been received by the Council the name was left out, but upon forwarding a fee of 5*s.* it would be re-inserted. I wonder why the same reason does not apply to the case of Sir S. Rowe? As I have been resident in New South Wales for the last ten years it is of no consequence to me that my name should appear in the British Medical Register and therefore I did not forward the required fee. Had I their permission or were it worth while I could point to the names of several practitioners who had lived in this colony for years prior to 1896, whose address was still in the United Kingdom according to the copy of the Register for that year, which is the latest I have seen.

I am, Sirs, yours faithfully,
R. D. GIVIN, M.D. Brux., L.R.C.P., L.R.C.S. Ed.

Sydney, New South Wales, August 4th, 1899.

A GENEROUS GIFT: IN MEMORIAM.—Lord Rookwood has handed over the Cottage Hospital, Broad Oak, Essex, as a gift to the parish in memory of the late Lady Rookwood, who took an active interest in the institution. In addition to this gift upwards of £400 have been subscribed among her ladyship's personal friends to be appropriated as an endowment fund.

THE MALARIA EXPEDITION TO WEST AFRICA.

(FROM A CORRESPONDENT.)

IN spite of several attempts by the members of the expedition to find the breeding-places of anopheles at Wilberforce, the station of the 3rd West India Regiment, the search has been in vain. But there has been no increase in the number of mosquitoes at the barracks. The failure is probably accounted for by the following circumstances. The nature of the surface is such that water runs away very quickly down the hill and can only collect in a few small holes in the surface of the rocks. These are continually scoured out during heavy rain and quickly dry up during sunshine. Only during a period of four or five days' gentle rain, not too heavy to scour out these puddles, could they serve as breeding-places for mosquitoes. Such conditions naturally occur but rarely and, as already mentioned, have chanced apparently only once during the seven weeks' stay of the expedition at Sierra Leone. The experience of the expedition at Wilberforce has been exceedingly instructive and affords very strong evidence of the truth of the mosquito theory. Here but one genus of mosquito—anopheles—and but one species of that genus, lodged in the barracks of the regiment. Of over a hundred of these mosquitoes caught at various times during the period of seven weeks, 26 per cent. proved to be infected, some showing a few zygotes only, others many and containing numerous "germinal rods" or "zygotoblasts" in their salivary glands. Simultaneously fresh cases of fever came daily to hospital, with tertian, quartan, or æstivo-autumnal parasites in the blood of the patients. Further, mosquitoes allowed to feed on these patients proved on dissection two or three days later to be infected. Thus the complete history was easy to trace at Wilberforce and proved a good guide for work in other districts.

It may be mentioned that the bodies discovered by Ross and described by other authors and usually called "black spores" were never met with in any of the numerous mosquitoes found here. This tends to disprove their connexion with malaria. It is a very common idea that mangrove swamps are good breeding-grounds for mosquitoes and that they also play a prominent part in the production of malaria. During the search at Wilberforce for breeding-places, in order to test every possibility, two swamps in the neighbourhood were explored. One is an ordinary swampy tract forming a kind of terrace half way down the hill on which Wilberforce stands, the other is a mangrove swamp at the base of the hill. In neither could any spot likely to form a breeding-place for anopheles be found.

The whole experience of the expedition at Sierra Leone tends to prove very strikingly that mosquitoes of the genus anopheles cannot travel far. The whole of Freetown has been explored for anopheles larvæ puddles and their positions have been carefully indicated in a plan of the town. The distribution of these puddles is limited very strictly to the immediate vicinity of human habitations. In no place has a puddle containing larvæ been found more than 40 yards from a native hut.

Similarly, again, the distribution of the mosquitoes themselves. Tower Hill barracks, where the 1st West India regiment is stationed, is an admirable example. The hill is about 250 feet high; a ring about half a mile wide immediately around the barracks is clear of native huts. Just beyond that distance puddles containing the larvæ of anopheles have been discovered; on two sides, in the parts known as Soldier Town and Bambare Town, they were particularly numerous. But although several times the whole of the barracks were searched, never was anopheles discovered. Mosquitoes of the genus culex were common—disused tubs, mortars, and other vessels in the immediate vicinity of the barracks were their breeding-places. Cases of fever did occur among the men at these barracks, but, compared to the number at Wilberforce, they were very few, mostly relapse cases; while from "first attack" cases it was easy to get the history that a week or fortnight previously the patients had slept in a native hut in the town.

The puddles containing anopheles larvæ may be described as follows: 1. Rock puddles occurring in shallow hollows on the surface of the bare hard rock. These are often only from a few inches to one or two feet across and many of the smaller ones swarm with larvæ. 2. Street-side puddles. These occur in the course of the rough

irregular ditches at the sides of the streets which serve very badly as surface drains. In heavy rain they are flooded; afterwards there is only a small stream expanding irregularly into puddles generally containing a green alga and swarming with larvæ. Later, all but the puddles, and in very dry weather even these, dry up. 3. Street puddles: pieces of water of various sizes up to several yards in length, very shallow, and simply collections in the lowest parts of badly-made roads.

The members of the expedition suggest that these could be dealt with by the following means and are of opinion that if the suggestions were carefully carried out in all parts of the town, mosquitoes of the genus anopheles would be practically extirpated in the district. 1. Surface drainage. This would involve the construction of open drains with a good fall at the sides of many of the less important streets, as has already been done in the principal ones, and the construction of even road surfaces by levelling up with soil, &c. This method, to a poor colony such as Sierra Leone, might prove an expensive one, hence two others have been suggested. 2. Treating the puddles regularly with such a reagent as kerosene to kill the larvæ. 3. Sweeping out the puddles where possible.

It is evident that the two latter methods would have to be regularly employed twice or three times a week for a long period, perhaps twelve months, by intelligent "scavengers" instructed how to identify the larvæ of anopheles. Experiments have been made here with kerosene sprinkled over puddles with the effect that the larvæ were all killed after a few hours. The kerosene film must completely cover the surface and must be renewed, of course, after a shower of rain. These two methods are now being employed at Freetown, but only the method of surface-drainage can be expected to yield satisfactory permanent results.

As far as can at present be made out three species of anopheles have been met with—but of one, however, only a single specimen has been captured—a large black-bodied mosquito with greyish wings. Of the other two it is impossible, without a more careful dipterological examination, to decide whether one is anything more than a smaller variety of the same species, but they appear alike in every point except size, one being almost twice the size of the other. They have in common a brown body; the costal margins of their wings are studded with black patches while along the course of the veins of the wings are scattered small pigmented spots of brown colour. The larvæ of anopheles are smaller than those of culex, have no breathing tubes, and their tapering bodies are provided along their whole length with a number of fine bristles, by which they are prevented, by becoming entangled among the algous threads generally found in the puddles in which they live, from being washed away by heavy rains. The larvæ vary in colour from a pale to a reddish-brown and often have during the first two or three days of their development a white streak just in front of the prothorax; later this disappears. Full grown they are about three-eighths of an inch long. The pupal stage is very short (from 24 to 48 hours) under natural conditions and the pupæ are considerably smaller than those of culex.

It has been previously mentioned that the Tsetse fly has been found on the seashore at Kissy. Since then the flies have been seen at several places: at the seashore at Lumley (a village beyond Wilberforce), along a stream running down the hill from the latter village, and also along another stream on a hill beyond that on which Wilberforce stands. They are generally seen sitting on stones, basking in the sunshine. Several persons who accompanied the members of the expedition were bitten by these flies, the bite causing a small tumour somewhat larger than that caused by a mosquito bite. Dr. Fielding-Ould arrived here on Sept. 16th and will proceed at once to Accra and Lagos. The expedition left Freetown per s.s. *Fantee* on Sept. 27th.

Freetown, Sept. 27th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

A Great Scheme for Original Research in India.—Regulations about Plague Cultures.—The Progress of the Epidemic.—Inducements for Inoculation.

IT is reported that the Government of India have under consideration a somewhat comprehensive scheme for the establishment of research laboratories in various parts of India and the appointment of health officers to the charge of them. An organisation for the systematic application of modern scientific methods to the study of diseases has gradually become a pressing need in India, but, as usual, financial considerations have over-ridden all others. The present laboratory at Muktesar will be further developed and the staff increased, the establishment becoming the central research laboratory for India. Then health officers will be appointed to the charge of laboratories at Calcutta, Madras, Bombay, Agra, and Lahore, the new department of bacteriology being ordinarily manned by officers of the Indian Medical Service. A central and five minor bacteriological research institutions will thus be created. The scheme, upon which the Government of India is to be congratulated, is likely to cost Imperial funds another half lakh of rupees (roughly, about £3300) a year and local governments between them not less than a lakh (£6650).

The Governor-General in Council has made new regulations to be observed by persons sending or taking from place to place in India cultures or other articles known or believed to contain the living germs of plague. No person who is not a commissioned medical officer, a military assistant surgeon, or a medical practitioner in possession of a qualification not lower than that of L.M.S. of the University of Calcutta, Madras, or Bombay shall without the special permission of the Governor-General in Council or a local government take in his private possession from one place to another any cultures or other articles which he knows or believes to contain the living germ of plague. No such culture shall be sent from one place to another unless it is securely packed in a hermetically closed tin of adequate strength, placed in a strong outer box of wood or tin, with a layer of at least three-quarters of an inch of raw cotton wool between the inner and outer case, the outer case being enclosed in a stout cloth, securely fastened and sealed, and labeled with such distinguishing inscription as will suffice to make immediately manifest the nature of the contents.

I have to record over 4400 deaths from plague in India during the past week. There has been a reduction in Poona City by over 25 per cent., but there have been increases in the Belgaum district, Satara district, and the Kholapur State. Several Europeans have been recently attacked at Poona and also at Kolar.

Considerable comment has been made on the holding of the popular races at Poona while plague was raging so severely in the city. The death-rate from plague alone in Poona during the past week was over 250 per 1000 per annum. It has given the native papers the opportunity to twit the British officials with indifference to the sufferings and misery in their midst; but apart from all sentimental objections I think there are strong arguments on sanitary grounds why this popular meeting should have been postponed. If pilgrimages be prohibited it is equally important that a vast gathering like that which the Poona races draw should also have been postponed. At almost the same time we find local authorities recommending to Government to impose three days' quarantine on all delegates to the forthcoming National Congress from plague-infected areas.

Some time ago it was reported that two porcupines and a monkey had died from plague in the Zoological Gardens, Mysore. It is now said that a kangaroo is ailing.

I referred in THE LANCET of Oct. 7th to the inducements which were being offered to the people of Bombay to be inoculated and I pointed out that the opportunity once possessed by the authorities had now gone by. It appears that Government has sanctioned the following inducements:—1. That all persons inoculated shall be exempted from segregation and eviction. As compulsory segregation and eviction were done away with some time ago I fail to see how this rule can generally apply. 2. Persons inoculated and being in poor circumstances shall be allowed four annas at the time of inoculation. This I cannot help considering a very retrograde course and a sign of feebleness in plague administration. In the Southern Mahratta country the people gladly paid two annas to be inoculated and thus avoided obnoxious regulations. 3. Persons holding certificates of inoculation bearing a more recent date than six months shall be subject to no detention or segregation when travelling by road or rail. This rule will practically prove a dead letter partly because travellers are not detained unless suspected of being ill and partly because personation can be so very readily practised. If these inducements had been promulgated in the time of the drastic plague measures of the late Plague Committee large numbers of the people would probably have taken

advantage of them. They may be successful even now but I doubt it. From 1896 up to now only about one-tenth of the population have voluntarily gone through the operation. Compare this with the huge majorities which were inoculated at Hubli, Gadaz, and other places.

When the steamer *Patna* arrived at Karachi from Mombasa with returning emigrants over 60 persons were found to be suffering from jigger. It is said that one or two serious cases among these may probably necessitate amputation.

Sept. 21st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Result of the New Vaccination Act in Liverpool.

DR. HOPE (the medical officer of health), in his report to the Health Committee of the City Council on the working of the new Vaccination Act in Liverpool, deplores the falling off of primary vaccinations between Jan. 1st and June 30th, 1899, as compared with the corresponding period of the year 1898. He admits that this declension does not coincide with the returns for all England and Wales. The latter returns show that there had been upwards of 77,000 more successful primary vaccinations in the first six months of the year 1899 than in the corresponding period of the previous year, showing an increase of nearly 28 per cent. in the vaccination of the county taken as a whole. In striking contrast with these facts and in support of the contention of the Health Committee that there were exceptional circumstances in the case of Liverpool and certain other ports which rendered the retention of the vaccination stations desirable it is very important to note that during the period in which this increase had been taking place under the new Act throughout the country as a whole, the falling off in the vaccination of Liverpool had been very serious—namely, from 2340 to 1830, a falling off of nearly 22 per cent.; in other words, the loss in Liverpool is almost as great relatively as the gain has been to the whole country. Dr. Hope regrets that the Local Government Board were unable to discover that the evidence laid before their inspector, Dr. Sweeting, furnished grounds for the retention of the vaccination stations in Liverpool. It may be feared that permanent mischief has been done, but in any case it will be very difficult to accustom the lower migratory classes to resort to the vaccination stations when the re-opening is allowed to be necessary. It was agreed to send a copy of Dr. Hope's report to the Local Government Board.

Return of Major Ross, I.M.S., from West Africa.

Major Ross, the lecturer on tropical diseases in the Liverpool School, who proceeded to West Africa at the end of July at the instance of the authorities of the school for the purpose of investigating the causes of malaria, returned to England on Oct. 9th. Only one member of Major Ross's expedition, Mr. Austin, had suffered from malaria, but happily that gentleman is now convalescent.

Poisoning in Liverpool from eating Contaminated Food.

Five women were recently poisoned by eating fish purchased from a stall in one of the local markets. The facts elicited at the inquest were to the effect that one of the deceased women (McGarry) came home on Sept. 16th complaining of illness. She said that she had eaten some fish and potatoes purchased in the Scotland-road market and that she afterwards had a "turn" in her stomach. The next day she was taken very ill and subsequently died. Death occurred in a similar manner in the other four women. The post-mortem examinations revealed considerable inflammation of the intestines. No other cause of death could be found. The bacillus enteriditis sporogenes was present, a microbe which was not easily killed and which would resist the destructive action of boiling water for a long time. A point for alarm in cases such as those described consists in the fact that there may be nothing to indicate to the eye or smell that such food is poisonous. In the opinion of an expert they arise from time to time apparently from the development of the bacillus, which, either itself or by the product of its growth, creates a poisonous substance. The circumstances of the present cases are being investigated by the medical officer of health (Dr. Hope).

The s.s. Oceanic and Liverpool Hospitals.

The managers of the White Star Company threw open for public inspection the s.s. *Oceanic*, the most recent addition to their magnificent fleet of steamers, for the benefit of the three north-end charities—viz., the Northern and Stanley Hospitals and the Bootle Borough Hospital. The result has been the addition of £145 3*s.* 8*d.* each to the funds of the charities.

Oct. 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

University of Glasgow.

THE vacant chair of Natural Philosophy which is likely to be known at least for many years as Lord Kelvin's chair has been filled by the election of Mr. Andrew Gray, M.A., LL.D., F.R.S., professor of physics in the University of North Wales. Professor Gray was formerly a distinguished student of Glasgow University and from 1876 to 1884 was assistant to Lord Kelvin in the conduct of the chair he has now been elected to occupy. The successful candidate for the chair of History is Mr. Dudley Julius Medley, M.A., of Keble College, Oxford. The University Court has appointed Sir William Gairdner, K.C.B., and Dr. D. C. McVail to the Board of Governors of the Victoria Infirmary, and Mr. M. Arthur and Mr. Alan E. Clapperton to the Board of Management of the Western Infirmary.

The Glasgow Southern Medical Society.

The opening meeting of the Glasgow Southern Medical Society for the session 1899–1900 was held on Oct. 5th in the rooms of the Southern Medical Club, 18, South Portland-street, Glasgow. Mr. R. H. Parry occupied the chair and there was a large attendance of members present.—Dr. C. E. Robertson, the representative of the society to the Victoria Infirmary, gave an interesting account of the work done by the board of directors during the year, dwelling particularly on the improvements carried out at the Bellahouston Dispensary.—At the conclusion of his address the treasurer, Dr. W. McMillan, presented the financial statement for the year, which showed a surplus of over £25. The meeting then proceeded to the election of officials in room of those retiring, and as now constituted the office-bearers of the Glasgow Southern Medical Society are as follows:—Honorary President: Dr. William Macewen. President: Dr. Hugh Kelly. Vice-Presidents: Dr. Thomas W. Jenkins and Dr. William Watson. Treasurer: Dr. William McMillan. Secretary: Dr. John Fraser Orr. Editorial Secretary: Dr. Andrew Wauchope. Sealkeeper: Dr. John Stewart. Extra Members of Council: Dr. Robert Pollok, Dr. Alexander C. McArthur, and Dr. Duncan Macgilvray. Court Medical: Mr. Robert H. Parry, Dr. John Dougall, Dr. Robert W. Forrest, and Mr. Edward McMillan. Representative to Victoria Infirmary: Dr. Charles E. Robertson.

Glasgow Victoria Infirmary.

The position of pathologist and bacteriologist to the infirmary is now vacant and applications by intending candidates are invited. An honorarium of £50 is attached to the position.

New Water-supply for Aberdeen.

The engineering experts (the borough surveyor and Mr. G. G. Jenkins, C.E., Aberdeen) report as to three routes for a supply for the city from the river Avon near Inchrory, the respective cost being £857,900, £950,500, and £1,019,000. The last route is recommended, the total length of aqueduct being 47¼ miles, whereof 33¾ miles would be cut-and-cover or tunnel capable *ab initio* of conveying 30,000,000 gallons of water daily, while the remaining 14 miles of iron piping, capable at first of carrying 10,000,000 gallons per diem, can be duplicated or triplicated at any time. The city analyst (Mr. Thomas Jamieson) certifies as to the sufficiency of the amount and the exceptional purity of the water, and points out in a separate report that to shift the intake on the Dee to a point high enough to avoid the danger of sewage pollution from a supply from that source would cost more than the Avon scheme, which there is reason to believe will be adopted, the ratepayers being anxious to put the water-supply of the city above suspicion.

The new works, moreover, will take probably from seven to ten years to carry out.

Vaccination in Aberdeen.

Aberdeen Parish Council have served upon eight defaulters statutory notices for failure to vaccinate. The list of 128 defaulters submitted last April has been disposed of thus: since vaccinated, 49; postponed, 30; referred to other parishes, 11; left parish—not found, 17; dead, 5; previously prosecuted and conscientious objectors, 16.

Medical Preliminary Examination, Aberdeen.

The number of entrants this year (spring and autumn) is 114, compared with 70 last year.

Oct. 10th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Isolation Hospital for Dublin.

DR. HENRY FITZGIBBON writes to the morning papers of Oct. 9th a suggestion that before the Corporation embark upon the large and expensive project of a new hospital for infectious diseases some matters should be at once attended to "which if removed might render the existing splendid fever hospitals amply sufficient to meet the requirements of the population." Dr. Fitzgibbon says that the Corporation Refuse Depôts first demand attention and remarks that his attention was first drawn to shore manure by the occurrence of typhoid fever among the post-office officials who are under his medical charge and who happened to live in the immediate vicinity of those fever-culture beds. The above letter and many others offering similar advice have had a considerable effect on the mind of the public. As a result the Corporation, at a large and important meeting held on Oct. 9th, rejected and practically abandoned the project to build a large isolation hospital in the neighbourhood of Dublin.

Rainfall in the North of Ireland in September.

The last month has been an unusually wet one even for the North of Ireland, for rain fell on 21 days and the total amount for the month was 4·37 inches. On the last day of the month there was a rainfall of 1·38 inches. Up to the end of September 31·04 inches of rain have fallen this year, as compared with 23·05 for the corresponding months of 1898, or an increase of 7·99 inches.

Health of Belfast.

At a meeting of the City Council on Oct. 4th it was reported that between August 27th and Sept. 23rd 450 cases of symotic disease had been notified, and of these 248 were typhoid fever, 86 simple continued fever, 61 scarlet fever, 32 erysipelas, 16 diphtheria, and two each puerperal fever and membranous croup. There were 142 deaths from symotic disease, 73 from phthisis, and 70 from respiratory diseases, making a total of 143 from the two latter causes. The annual death-rate was 23·5 from all causes, that of children under one year old being 8·8 and that of those 60 years of age and upwards 2·7 per 1000 of the population. The number of cases of typhoid fever is rather greater than in the previous month. The type of the disease is a severe one and head symptoms are the prominent complications, and for the number of cases attacked the mortality is severe. Three cases of small-pox have been reported this week, but it is hoped that the disease, with care, will be stamped out. The Health Committee propose to erect a new model lodging-house at a cost of £8000 to accommodate 110 persons and it has also been decided to purchase a refuse destructor at a cost of £9766 7*s.* 6*d.*

Banbridge District Nursing Society.

At the annual meeting of this society, held in the town hall, a satisfactory report was presented showing that there was a balance on the working expenses of over £14 for the half year.

Lunacy Appointments.

Lord Ashbourne has appointed Dr. William Graham (medical superintendent of the Belfast District Asylum) and Dr. Strafford Smith to be Lord Chancellor's consulting visitor in lunacy and medical visitor respectively.

Bangor District Nursing Society.

At the annual meeting of this society held on Oct. 5th the Marchioness of Dufferin presented the annual report which showed that 165 cases had been nursed during the year and nearly 4000 visits had been paid by the nurses. There is a small balance to the credit of the society. The Marquis of Dufferin, who presided, delivered an extremely interesting speech full of that "Sheridan" wit of which he has the hereditary gift. He stated that one of his daughters, Lady Hermione Blackwood, was engaged in a London hospital qualifying herself for the duties of a nurse.

Oct. 10th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Periods of Latent Activity in Syphilis.

DR. MOREL LAVALLÉE read a very interesting paper upon this subject at a recent meeting of the Academy of Medicine. After recalling to the meeting the picturesque formula of his old master, Fournier, who defined syphilis as "a state of apparent health interrupted from time to time by short periods of disease," the young physician of the St. Louis Hospital described the periods of "calm" and showed that very often the good health is only very superficially in evidence. Many syphilitic patients, without presenting any definite manifestations of the disease which would lead the physician to prescribe definite anti-syphilitic treatment, offer distinct evidence of malnutrition leading to a loss of weight which may be as much as even a ninth of the proper body weight. This condition Dr. Morel Lavallée calls acute transitory cachexia. The disease is not at this time slumbering, as has been affirmed, but is really active and shows itself by disturbances of the general health which are not obviously syphilitic and which the physician would never think of attributing to syphilis. However, if syphilitic treatment is used, and, above all, mercury, all trouble rapidly disappears and the patient almost at once regains his weight. The condition is comparable, according to Dr. Morel Lavallée, to that of a patient who, being syphilitic but presenting no obvious symptoms and having been declared safe by his medical man, is yet capable of begetting hereditarily syphilitic children, but if he should put himself under anti-syphilitic treatment could beget healthy children. Dr. Morel Lavallée's conclusions are interesting from the point of view of treatment. Formerly medical men only gave specific treatment up to the time at which the various manifestations of the disease disappeared and began it again when new symptoms showed themselves; in a word, the treatment was opportunist. At a later date, in accordance with the views of M. Fournier, preventive treatment was adopted; that is to say, treatment was rigorously carried out for four or five years whether the patients showed any symptoms of syphilis or no. If after this time fresh manifestations arose treatment was re-commenced until they disappeared and for a varying period afterwards by way of precaution. Nowadays, looking at these depressing conditions of malnutrition which supervene after many years of apparent health, even in those who had every right to consider themselves cured, it may be asked whether it were not wiser to continue the regular treatment for preventive reasons even beyond the usually accepted time. Also the question arises whether certain patients suffering from syphilophobia who take mercury almost uninterruptedly during their whole life and fly to a specific treatment on the appearance of the slightest illness, even though it has no apparent connexion with syphilis, have not a good deal of justification for their actions. It would appear difficult to lay down this method of treatment publicly. Not that the indefinite prolongation of the treatment offers any dangers to health if sensible remissions are allowed, but intelligent patients consulting a medical man as soon as a chancre appears would not unlikely be driven to suicide if they were told at once that they would have to keep up treatment during their whole life and could never really consider themselves free from the danger of some unpleasant consequence of the disease. Dr. Morel Lavallée is of opinion that without making this treatment an absolute necessity and certainly without telling the patient beforehand the physician should consider that syphilis when apparently quiescent is really active and that in any disturbance of the general health, even simple malnutrition, without any obvious cause recourse should be had to specific treatment. Finally, remarked Dr. Lavallée, however rigorously early preventive treatment has been carried out

specific treatment is the *ultima ratio* for dealing with an enemy who, whatever may be said, can never be finally and completely put to rest.

Precautions against Plague.

The Minister of the Interior has issued stringent orders to all the prefects of the maritime departments on the Atlantic coast, as the ports of such departments are in constant communication with Portugal. Every year during the latter half of September fishing crews start from the smaller ports to fish for sardines, lobsters, crawfish, and tunnies off the coast of Portugal. They are in the habit of landing to buy kegs of roe, a bait which is sold there at a much lower rate than in France. The prefects are to give the most strict orders to all smack-owners that they should forbid their crews to land on the coasts of either Portugal or the North of Spain. He relies on the vigilance of the sanitary officials stationed on the coast for the due application of these measures and warns those whose interests are involved that if they do not have regard to the regulations imposed the Minister of the Interior can under the law of March 3rd, 1822, prohibit the introduction into France of fishery products coming from a suspected source.

Oct. 10th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Professor Koch's Report on Malaria.

PROFESSOR KOCH'S first report on his study of malaria in Italy has been published in the *Deutsche Medicinische Wochenschrift*. He stayed in Grosseto, a town situated in the Tuscan Maremma, from April 25th till August 1st together with his assistants, Professor Frosch and Dr. Ollwig, and the Italian delegate, Professor Gosio. It was a remarkable fact that new cases of malaria usually occurred only in the months of July, August, and September, so that up to June 23rd the commission had the opportunity of observing only 59 cases, of which five were recent, whilst from this date till the end of July 222 cases were examined. In every instance the parasite of malaria was found in the blood. Apart from human blood the parasites occurred only in some species of mosquitoes which were met with only in the summer. The mosquitoes convey the malaria germs from one human being to another; the infection is especially maintained and propagated by the relapsing cases which continue all the year round and form the link between one fever season and the next, so that the mosquitoes in the beginning of summer always find germs. A remedy which destroys the parasites was discovered long ago in cinchona bark and quinine; it must be given not only during a fit but for a very long time—from eight to nine months—so that relapses may be avoided. If no relapse occurred in any of the cases of malaria in any given district the mosquitoes would find no germs in the beginning of summer and malaria would become extinct there. Professor Koch succeeded in recognising certain species of mosquitoes in the dwellings of the population; this was the more important as the mosquitoes of this district did not usually bite during the day but only during the night. The inhabitants therefore became infected at night within their dwellings. In seven cases parasites of malaria were discovered in insects, especially in anopheles maculipennis. In many dwellings, however, where patients had contracted malaria anopheles was not present but another insect, culex pipiens, was hardly ever absent. Professor Koch ascertained that the so-called æstivo-autumnal fevers were identical with tropical malaria. Professor Grassi of Rome has recently charged Professor Koch with unwarrantably claiming to be the discoverer of the spread of malaria by mosquitoes and with ignoring the fact that the propagation of malaria in this way was made known long ago by the researches of Professor Grassi himself and other observers. Professor Koch, being at present in the Dutch East Indies, is unable to reply to these imputations, which have been aggravated by publication in a non-medical journal, the Rome *Tribuna*. It must, however, be observed that Professor Koch in this and in other memoirs speaks of the "well-known" mosquito theory, so that obviously he had no intention of giving himself out to be the author of this theory.

Congress of Naturalists and Medical Men.

The Congress of the Association of German Naturalists and Medical Men was opened on Sept. 18th in Munich, Prince Ludwig Ferdinand of Bavaria, M.D., being in the chair. After the usual inaugural proceedings the first paper was read by Dr. Nansen on his expedition to the North Pole. The first medical address was delivered by Professor von Bergmann of Berlin and dealt with the value of skiagraphy in surgery. Alluding to the preceding paper he said that the meeting had just heard a naturalist who would for ever be famous because he had endured hardships for the sake of science; medicine, however, was not a mere science, as it always has had, and always would have, a practical aim—the relief of suffering humanity. Great advances in practical medicine had always been made under the guidance of natural science, the most recent example being the x rays. At first these rays were erroneously believed to be a panacea. Their power of stimulating the growth of the hair or of destroying bacteria was still very doubtful, but there was no question as to their value in revealing certain alterations in the living human body. Professor von Bergmann then showed a great many skiagraphs demonstrating the normal growth of the bones, pathological alterations in rachitis, deformities, &c. In concluding, he referred to the diagnosis of fractures and the recognition of foreign bodies. The last address of the first meeting was delivered by Professor Foerster of Berlin on Astronomical Cosmology. The second general meeting took place on Sept. 22nd when Professor Birch-Hirschfeld read a paper on Science and Medical Treatment. In former times, he said, naturalists commenced as physicians; nowadays medical science and treatment were based upon natural science; bacteriology, antiseptic surgery, and serum treatment were examples of the close connexion of medicine and natural science—a connexion which was the distinctive feature of scientific treatment as opposed to charlatanism. Only a physician with a knowledge of natural science was able to individualise, whereas the mere pretender treated his patients according to a fixed routine. A great many people nevertheless preferred to consult irregular practitioners—a fact which was accounted for principally by the widespread love of mystery and marvel. It was to be hoped that this tendency might be overcome by spreading a knowledge of natural science among the public. Professor Klemperer of Berlin then discussed Justus von Liebig's influence on medicine. It was due to this great chemist that in pharmacology uncertain decoctions of plants were replaced by drugs of definite chemical composition; he was also the discoverer of several very important compounds, such as chloroform, paraldehyde, &c. Another part of his work related to the physiology of nutrition. He investigated the composition of food and its value for the organism. It was especially owing to his influence that modern medicine was led to attach as much importance to nourishment as to other details of treatment. Liebig devised several varieties of artificially prepared food, one of them being his well-known extract of meat, and he, moreover, made valuable contributions to theoretical physiology by his studies on animal heat. At a meeting of the combined sections of internal medicine and hygiene Professor Buchner of Munich spoke on the national defences of the organism against disease. The blood was the principal safeguard of the body against the attacks of bacteria. The bactericidal substances of the blood—the so-called alexins—had obviously a certain digestive action; they were, in fact, able to dissolve not only bacteria but red corpuscles as well. The alexins were produced by the leucocytes which had a marked solvent action on various substances, the absorption of catgut, for instance, being affected in that way. This solvent action of the blood by which pathogenic substances were destroyed had not been sufficiently appreciated notwithstanding the researches of Professor Bier, who discovered that tuberculosis of the bones and joints of the extremities might be cured by artificial hyperæmia produced by constriction of the extremity in question. A local hyperæmia produced by the application of alcohol was able to cure inflammatory conditions such as furuncle, cellulitis, &c. By alcohol the blood-vessels were dilated and the blood-pressure was increased. In conclusion Professor Buchner said that it was now time for the theory of the bactericidal action of the blood to be turned to account in practical medicine.

Oct. 9th.

CARDIFF SEAMEN'S HOSPITAL.—The German Emperor has contributed £40 to the Cardiff Seamen's Hospital Fund.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Protargol in Affections of the Eye.

PROTARGOL, which came on the market in 1897 and has been especially recommended as an efficient remedy for gonorrhœa (Benario, Neisser), promises to do good service to ophthalmic surgeons. Dr. Emmert of Berne publishes a report on 350 cases. Simple acute conjunctivitis he treats by the application of two drops twice or three times a day of a solution varying from 1 to 3 per cent. (from four to 12 grains to the ounce). He also bandages the eyes at night and each eye alternately in the daytime with protargol vaseline in a strength of from 5 to 20 per cent. (from 20 to 80 grains to the ounce). This is spread on soft linen rags and a small quantity of this salve seems to permeate into the tissues of the conjunctiva and there exercise the desired curative influence. These bandages must be covered with wadding and a certain amount of pressure applied. Cases of conjunctivitis are relieved in from two to three days, very severe uncomplicated cases in from five to eight days. Protargol whilst containing a high percentage of silver has the advantage of being much less irritating than many other silver solutions recommended of late, not to speak of the nitrate, and causes no eschar. Cases of severe ophthalmia neonatorum could be dismissed recovered in from six to 18 days, iced compresses (pads) being superadded to assist the recovery. Thus protargol should be used as a prophylactic remedy instead of the usual nitrate of silver solutions used in lying-in hospitals. Dr Emmert also recommends protargol in cases of eczematous keratitis and ciliary blepharitis and he has seen beneficial effects from its use in various forms of dacryo-cystitis.

Professor Wyder on Face Presentations.

At the meeting of the medical men of the canton of Zürich on Oct. 4th Professor Wyder spoke on this subject as being of great importance in practice, as several misconducted cases of forceps application which he had come across in the last 15 years had proved to him. All attempts made to alter the given position by manual applications are of very doubtful success; the best course is to leave the matter to nature, as natural forces complete the labour slowly but properly in 99 cases out of 100. In case of danger to the mother arising interference is essential, and according to the more or less advanced state of the labour there are three possibilities—viz., version, forceps (only if the chin is to the front), or perforation; therefore a prophylactic version to avoid the possibility of a perforation has its justification. The application of forceps in case of the chin being situated posteriorly is totally contra-indicated, the termination of the labour being impossible till the chin has turned to the front and it is either futile or dangerous to the mother through laceration. Professor Wyder also spoke of some operations which he had successfully carried out on myomatous tumours complicated by pregnancy and of one case of cancroid of the cervix complicated by pregnancy. The womb was completely removed in each case.

Zürich, Oct. 9th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Typhoid Fever in City and Province.

ALL who are meditating a visit to Rome to make sure of comfortable quarters before the commencement of the holy year will be concerned to know that one of the main sources of the city's water-supply, the Acqua Vergine (popularly called Trevi), has been seriously contaminated; that fever, typhoid in character, has been prevalent during August and to a less degree during September; and that the Prefect has ordered the municipal authorities to lose no time in ascertaining the points at which the said water admits the noxious infiltration and in remedying the mischief accordingly. The Acqua Marcia, too, is not above suspicion. At its Sabine source it is bacteriologically very pure, though containing a calcareous element wanting in the Vergine; at its issue from the main pipes it is also pure, but somehow it does not maintain its character in its derivative branches. With a view to its examination and re-instalment in public credit the Syndic has ordered the temporary closure of the "recipienti" (receptacles) along its course. Besides the natural origin of typhoid fever from polluted water-supply the recent visitation of the fever is traced to another source — Porto d'Anzio and Nettuno, those much-frequented bathing resorts on the Latin shore having had many typhoid fever cases and not a few deaths in the later weeks of summer—cases which have brought the fever to Rome and largely reinforced, if they did not actually originate, the outbreak in the city. At both these maritime stations the water-supply has been very bad, insomuch that the Prefect has nominated a commission to inquire into the cause of the evil and to indicate the remedy. It is even hinted that the municipal authorities of Porto d'Anzio and Nettuno have been culpably remiss in not sounding the alarm in time to keep off the visitors who have unsuspectingly fallen victims to what was really an epidemic.

International Congress of Electro-Biology at Como.

Risen, like Phœnix from its ashes, the exhibition at Como in honour of the discovery of the voltaic pile 100 years ago has just been giving effect to collateral features of its programme, prominent among which is the application of electricity to biological research and to clinical medicine. Italy may justly be called the mother of this development of science. In THE LANCET of July 22nd and 29th, 1876, her claim to the distinction was clearly put in evidence by that accomplished physiologist, the late Professor Moritz Schiff of Geneva; and if his masterly exposition was in any need of supplement or confirmation it was amply furnished last week at Como in the addresses delivered by Professor Golgi of Pavia and Professor Mondino of Palermo before the Congresso Internazionale di Elettrobiologia ed Elettroterapia. The attendance was numerous and in Italian medicine it included such representative names as those of Mosso, Bozzolo, Silva Bizzozzero, Pagliari, and Perroncito. Volta himself, according to Professor Golgi, would have hailed the medical utilisation of his epoch-making discovery as at once its culmination and its crown. Morgagni and the great morphologists had led up to such a utilisation of the new-born power, and now, while electricity is revolutionising the conditions of modern social intercourse and well-being, it is proving a master-key in the healing art through the revelations and resources due to electro-diagnosis and electro-therapeutics. Professor Golgi wound up his address as president of the Medical Organising Committee by a brilliant *éloge* of the lamented Dr. Raffaelle Vizioli, professor of nerve-therapeutics in the University of Naples, whose delight it would have been to have witnessed that day the progress of the Italian school of electro-biology which he had laboured so effectually to promote. Professor Mondino followed and dwelt in lucid detail on "the possibilities of diagnosing from new points of view the activities of the protoplasm and the 'cellula'"; on "the possibilities of recognising maladies hitherto latent"; and, in the field of therapeutics, on the "possibilities of obtaining results so surprising as to eclipse even those electrical applications which are now subserving uses unknown to the previous generation." His discourse, interesting from its rich suggestiveness and attractive from its literary graces, was loudly applauded at its close. On the following day (Oct. 2nd) Professor Mosso succeeded Professor Golgi in the presidential chair and called on Professor Colombo of Rome to explain to the Congress his new form of electro-therapeutics applied through the medium of electro-voltaic baths, electro-voltaic friction, and "punctiform localisation." To this method Professor Colombo gave the name of "corrente voltaica monodica" and illustrated its effects by typical therapeutic applications. Professor Sgobbo of Naples thereafter read an elaborate and, clinically considered, a very valuable paper on the modifications of the cerebral pulse in the human subject during the application of the galvanic and faradaic current to the head and neck. Dr. Casiorati's communication came next—on the Influence of Electricity on the Muscular Force. This he illustrated by numerous ergographic tracings, proving that not only is that force increased in the human subject to a considerable extent but that the increase is really not evanescent but lasting. Other papers of interest were those of Dr. Luisada on Electrotherapy in the Diseases of Children; of Dr. Cagnola and Dr. Ambrosini on Electricity in Reference to Oto-rhinolaryngical Medicine; of Professor Mirto on a Successful Case of the Thermo-electric Treatment of Epilepsy; and of Professor Gradenigo of Turin on the Electric Examination of the Acoustic Nerve. This was an important memoir and

gave rise to an animated discussion, in which Dr. Negro (*privat-docent* in Neuropathology in the same university) took an effective part, mainly adverse to Professor Gradenigo's positions. The Congress thereafter, at the instance of Professor D'Arman, entered on an exchange of views as to the propriety of giving electro-therapeutics a special place in an university curricula. Professor Mosso was opposed to such an initiative on grounds practical, economical, and professional. The time for such an adjunct to the already more than onerous demand on the undergraduate's time and attention was not yet come, but there might be room for the subject in a post-graduate course. Ultimately a committee was appointed to consider the question. A cognate discussion as to the formation of a "society" composed of workers in electro-biology ended likewise in the nomination of a committee; shortly afterwards the Congress rose for the day.

Oct. 9th.

RUSSIA.

(FROM A CORRESPONDENT.)

The Etiology and Prophylaxis of Scurvy.

UNDER this heading a series of interesting articles has recently appeared in *Botkin's Hospital Gazette*,[1] from the pen of the late Dr. Iskerski, who had devoted many years of his life to the study of scurvy. The recent prevalence of the disease throughout a great part of Russia in consequence of the famine lends a particular interest to the subject at the present moment. This is not, however, the first time that the author's views have been made public; for in various medical and official journals, and particularly in a report of a Commission appointed in 1893 to inquire into the causes of scurvy in the St. Petersburg garrison, the late Dr. Iskerski had fully explained his views as to the cause of scurvy. That disease he regarded as unquestionably due to a special form of poison formed in stale or spoilt flour, the poison still retaining its activity after the flour has been made into bread or biscuits. He was first led to form this conclusion by observing that certain Russian tribes who live solely on animal food and never partake of food made from flour in any form are always free from scurvy. These tribes are the Samoyeds in the north and the Giliaks, Ainus, nomadic Tunguses, and some other tribes in the Amur province of Eastern Siberia, who live under all those circumstances of climate, overcrowding, filth, and insanitation generally which have often been held to cause, or at least to favour the occurrence of, scurvy. It would also seem that scurvy is found solely amongst races who consume food made from either wheat-flour or rye-flour, the use of maize or rice (as in Roumania and Japan) not being accompanied by the prevalence of this disease. The frequent association of scurvy with famine is to be regarded as due to the resort in times of scarcity to stale and spoilt flour. Outbreaks of the disease on board ships are probably due to the same or a similar cause, biscuits and flour on board ship both becoming stale and altered after a long voyage. Scurvy at sea is not, in Dr. Iskerski's opinion, due to the absence of fresh meat, and he adds that the officers of a ship never suffer from the disease unless they are eating the same food as the sailors. Outbreaks of scurvy on long expeditions by land, in gaols, and in besieged cities are all to be explained in the same manner as due to the use of spoilt flour in the form of bread or biscuits. Flour is particularly liable to deteriorate if kept in moist, warm, and ill-ventilated places. Scurvy at one time was remarkably rife among the troops quartered in Moscow, and only ceased among them on their removal to other towns, although in the latter the general conditions and surroundings were much less favourable than in the former. The explanation was found in the quality of the bread, which had been distinctly inferior in Moscow but which was much better in the other places. Analogous facts are quoted in respect to the troops in St. Petersburg and Pskof. Dr. Iskerski's own experience of scurvy among some of the finest regiments in the Russian army at Peterhof convinced him that the disease could occur in spite of the most liberal diet, rich in albumins, fats, starch, salts, and vegetable acids and in spite of the exceptionally good physique of the men. Some interesting facts are quoted indicating that the diminution of scurvy in the Russian army in the past 50 years has coincided with the introduction of flour-mills, the grain being stored as grain and only being ground to flour as it is wanted. Formerly army flour was kept stored for an indefinite length of time, and even now under the regulations it is permissible to keep it stored for as long as one year and eight months. In the fleet and among the general population it seems that scurvy is most prevalent in the spring and summer (when from three-fourths to four-fifths of the cases occur), and least so in the autumn and winter—the autumn being the freest of all the seasons. This is probably due partly to the spoiling of the flour kept through the winter and spring months from the previous year's crop, and partly to the long Lenten fast in the spring when the people live mainly upon flour products. That the cause is not simply climatic or seasonal is shown by the outbreaks of scurvy at other periods of the year, under exceptional circumstances, such as those epidemics of the disease which attacked the French army before Sevastopol, and again in Paris during the siege. The symptoms of scurvy point to a chemical rather than a bacterial poison as the cause of the disease. It is not a climatic or soil disease, like malaria, for it is found in Algiers and on the shores of the Arctic Ocean, in Sevastopol and Archangel, and in the years 1835–52 it was much more prevalent in the Black Sea fleet than in the Baltic and Archangel fleets. It is not hereditary, nor is it infectious. Pellagra is the disease most analogous to it. In describing fully the symptoms of scurvy Dr. Iskerski lays stress upon the occurrence of great anæmia, and particularly of hemeralopia, or night-blindness, which is frequently overlooked or put down to tobacco poisoning or some other cause, but which is in most instances due to a scorbutic condition. The lesson drawn from the large number of facts brought together in these papers (only a very small proportion of which has of necessity been quoted here) is obvious from what has been said. Flour should on no account be stored longer than is absolutely necessary. In the English army, it is pointed out, freshly baked flour is given out twice a day to the men. Above all, flour, if it has to be stored, should be stored in clean, dry, and well-ventilated store-rooms specially built for the purpose.

[1] Nos. 31 to 35 inclusive.

Leprosy in South Russia.

Leprosy is very common in certain parts of Southern Russia, particularly in the two provinces of the Terek and Kuban in the northern Caucasus and in the Don territory. The Ministry of War, which is responsible for the administration of these portions of the country, has decided to shortly open three new *leprosoria* or leper asylums, one in each of the provinces named. They will accommodate 80, 150, and 120 persons respectively, and are intended both for Russian and native (Cossack or Tartar) patients. All lepers who are able to work in the asylums will be compelled to do so, but the products of their labour will not be for sale outside. It is rumoured, but the report is not confirmed, that segregation in these asylums is to be compulsory on all lepers, irrespectively of sex, age, or even social position.

The Plague Outbreak.

The localised outbreak of plague at Kolobovka, near Astrakhan, seems to have completely died out, and this desirable result may almost certainly be ascribed to the prompt and radical measures taken to deal with the disease. The rumour that plague had appeared at Samara turns out to be incorrect; the few deaths there from an unusual cause which gave rise to the rumour have proved to be due to a severe form of malaria. The measures which had already been put in force to prevent the infection spreading have therefore been abandoned. As the last death from plague occurred in Kolobovka on August 12th (24th) and there have been no fresh cases since, the Russian Empire is presumably now entirely free from plague. The Russian Plague Commission, however, recently announced that plague had appeared at "the port of Inkou, in Manchuria," the Chinese province which adjoins the Russian province of the Amur. This particular port is not marked on ordinary maps, but as the coast of Manchuria is not extensive it may be presumed that the port is not far from that of Newchwang on the Gulf of Leao-Tong, and in all probability the infection has been carried from Newchwang where plague was prevalent late in August.

General News.

An exhibition of dairy products was recently held in St. Petersburg and was visited by a large number of people.

A bacteriological institute was recently established in Vladivostok, the principal Russian port on the Pacific, and

now it is stated that a similar institute is to be shortly opened at Merv in Central Asia.

Small-pox is said to be exceedingly prevalent in Kherson and also in the government of Nijni Novgorod.

A very unfortunate occurrence is reported from the government of Archangel. Experiments were recently made there with a view to protect reindeer from "Siberian plague" (anthrax) by means of prophylactic inoculations. But out of 240 animals inoculated 230 died on the second day and the remaining 10 on the following day. The facts are quoted by the *Vratch* on the authority of the *Northern Frontier* (*Sévernui Krai*), an Archangel paper.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Insanity in New South Wales.

THE report on the hospitals and other institutions for the insane in New South Wales for the year ending Dec. 31st, 1898, has been presented to Parliament. The number of insane under official cognisance was 4073, an increase during the year of 116. The average increase per year, taken over a period of 20 years, is 108. The proportion of insane to population was 1 in 330 50. The admissions have been 730, giving a ratio of "occurring insanity" in proportion to general population of 1 in 1844. Among the admissions were a large number whose main ailment was old age and its accompanying dementia, mostly transferred from the benevolent asylums, and these cases diminished the recovery rate and kept the wards full to the detriment of curable and hopeful cases. The death-rate was 6·29; the chief causes of death were diseases of the brain, notably general paralysis. The hospitals contained 151 more patients than they could properly accommodate and the Inspector-General (Dr. Sinclair) recommends the erection of another hospital on the land reserved for the purpose at Orange. He also recommends the establishment of a pathological department and an increase in the facilities for scientific work.

The Profession and the Friendly Societies in Victoria.

On August 29th a conference took place between representatives of the various friendly societies of Victoria and delegates from the Medical Defence Association for the discussion of proposals for removing grievances between lodges and medical men. The President of the Medical Defence Association (Mr. G. A. Syme) was in the chair and he opened the conference by stating that it had been arranged in accordance with a resolution of a conference of delegates from medical societies in all the Australian colonies in November last. It was then decided that the relations between the friendly societies and the medical profession were not satisfactory. Three points were proposed for discussion: the limitation of the benefits of friendly societies to the wage-earning class for whom they were intended, the inadequacy of the average payments made by the societies for medical attendance, and the definition of what should be paid for as extras. Dr. McAdam explained the first point and suggested that membership of friendly societies should be limited to persons earning less than £200 per annum. From inquiries made by the Defence Association it appeared that Members of Parliament, high-salaried civil servants, bank managers, prosperous merchants, traders, and farmers were content to receive medical attendance at 15*s.* per annum. The delegates from the friendly societies objected to this proposal as inquisitorial and unworkable. They were not all agreed as to wealthy members. Some said there were not in the whole colony 100 wealthy men who took medical benefits from friendly societies and that the societies discouraged them. Others said that it did not matter what the income of members was: they had a right to buy medical science as they bought potatoes—in the cheapest market. It was all a question of supply and demand. The question of remuneration was dealt with by Dr. Harvard who proposed that the societies should pay practitioners a retaining fee of 10*s.* a year and a small charge for each visit and consultation. From an analysis of statistics from the dispensaries of the various friendly societies it appeared that on an average each family had 15¼ prescriptions a year, so that the medical man received approximately 1*s.* a visit. The delegates opposed this proposal also as unworkable, but they thought that an average rate might be struck that would be fair and asked for an adjournment of the conference to consider the proposals at leisure. This was agreed to.

Sydney Hospital.

A deputation recently waited on the Colonial Secretary to request that a sum should be placed on the estimates for carrying out additions and improvements at the Sydney Hospital. These were a new operating theatre, nurses' accommodation, a dental college, and a laundry. The Colonial Secretary admitted that the hospital should be made as perfect as possible and said he would submit the request to the Cabinet.

Election of the Staff at the Melbourne Hospital.

The quadrennial election of the honorary staff of the Melbourne Hospital took place on August 16th. The in-patient physicians, the in-patient surgeons, and the out-patient surgeons were returned without opposition. The retiring out-patient physicians were opposed but they were all re-elected, so that the whole staff remains the same as before. The staff celebrated the occasion by a dinner, at which Sir T. N. FitzGerald presided and proposed the toast of "The Melbourne Hospital." Sir T. N. FitzGerald has been surgeon to the Melbourne Hospital for 40 years.

Obituary.

Two well-known and highly esteemed practitioners have been removed by death from the profession in Adelaide during the past month. Dr. H. T. Whittell, chairman of the Board of Health, city coroner, and vaccination officer, was a prominent figure for very many years and took a very active part in the sanitary administration and reform of the colony, and Mr. W. T. Clindening was as well known, having arrived in the colony in 1853. The latter gentleman was one of the first surgeons at the Adelaide Hospital and lately was medical officer to the Destitute Asylum. He was also principal medical officer of the volunteer forces and retired with the rank of deputy surgeon-general. News has reached Australia of the death, in England, of Mr. T. M. Girdlestone, formerly one of the leading surgeons in Melbourne. He was at one time lecturer on surgery at the Melbourne University and surgeon to the Melbourne Hospital. He was also health officer for the city of Melbourne for many years. He was the introducer of kangaroo tendon as a ligature and suture material and was one of the first to depart from strict Listerism in the treatment of wounds while maintaining asepsis.

Sept. 1st.

Obituary.

ALEXANDER WALLACE, M.D. OXON., M.R.C.P. LOND.

BY the death of Dr. Wallace the town of Colchester loses its oldest medical man and one of its best-known inhabitants. The deceased studied medicine at St. Bartholomew's Hospital and became M.R.C.P. Lond. in 1857. In the following year he graduated as M.B. and M.A. at Oxford University, proceeding to M.D. in 1861. He settled in Colchester as a consulting physician 40 years ago and was for 31 years physician to the Essex and Colchester Hospital. Dr. Wallace was all his life a man of active habits and strong physique. He was an enthusiastic supporter of all athletic exercises and last year played in the East Essex lawn tennis tournament. In his younger days he played cricket for his university and for the Gentlemen of England. Dr. Wallace's tastes were not wholly directed to athletics. He contributed several interesting cases and reports to the *St. Bartholomew's Hospital Reports* for 1888-90-91 and to the *Provincial Medical Journal*. He was also the author of articles on Migraine and on Atonic Dyspepsia published in the columns of THE LANCET in 1893 and 1897. At one time he devoted himself to entomology, endeavouring to introduce silkworm culture into England; in this connexion he wrote two memoirs entitled "Ailanthiculture, or the Prospect of a New English Industry," and "On the Oak-feeding Silkworm from Japan"; these were prize essays of the Entomological Society of London in 1865-66. He was also much interested in orchids and lilies, a number of which he was the first to

bring over from Japan. Dr. Wallace's last illness was long and trying, and he died on Oct. 1st in the seventieth year of his age.

JAMES HODGES, M.R.C.S.ENG., L.S.A.

WE regret to announce the accidental death of Mr. James Hodges at Upper Edmonton on Oct. 3rd. Mr. Hodges scratched a finger about three weeks ago whilst making a post-mortem examination on a child and this was followed by lymphangitis, a large axillary abscess, and severe hæmorrhages, to which he finally succumbed at the early age of 41 years, leaving a widow and three children to lament their loss. He was the eldest son of the Rev. James Hodges of Shippon, near Abingdon, and St. Helier's, Jersey, and was educated at Abingdon School and the College, St. Helier's. He served a pupilage with his uncle, Mr. R. P. Jeston of Henley-on-Thames, and entered the medical department of King's College in October, 1876. He filled the office of resident accoucheur at King's College Hospital and was elected an Associate of the College. He practised at Bury St. Edmunds from 1883 to 1898 and was an honorary medical officer to the Suffolk General Hospital and medical officer of health to Bury St. Edmunds. On coming to London last year he was appointed medical officer of health, parochial surgeon, public vaccinator, and local surgeon to the Great Eastern Railway, and soon obtained a very large general practice in Upper Edmonton. He was a Captain in the 2nd Regiment of Suffolk Volunteers, an ardent Freemason with provincial honours, and performed every civic duty with great enthusiasm. His fellow-students, friends, and patients have sustained by his death a great loss.

Medical News.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON: THE STUDY OF BERI-BERI.—The following Memorandum from the Colonial Office was read at a general meeting of the College held on Thursday afternoon last:—"The Government of the Straits Settlements desires to invite the attention of Radcliffe's travelling Fellows and of holders of scholarships for medical and physical research to the study of the tropical disease called Beri-beri. This disease caused in the hospitals of the colony 730 deaths in 1896 and 692 in 1897. This Government will be glad to assist any scholar who desires to engage in the scientific investigation of this disease in the colony by providing him with furnished quarters rent free, by giving him free access to all the hospitals and facilities for studying the cases therein, by defraying the cost of his passage to the colony, and in any way which may be agreed upon hereafter between the scholar and the undersigned." The Memorandum is issued by the Governor of the Straits Settlements.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates at the preliminary examination have passed in the subjects indicated:—

PART I.

Chemistry.—T. D. Bright, Aberdeen; A. J. Nicholson, Edinburgh and Cork; and S. H. Sugden, Manchester.

Materia Medica and Pharmacy.—D. Mann, Royal Free Hospital; S. S. Menzies, Birmingham; S. H. Sugden, Manchester; H. O. Sutcliffe, Cambridge; and M. L. Tyler, Royal Free Hospital.

PART II.

Anatomy.—F. D. S. Barker, Royal Free Hospital; J. A. Bartlett, Bristol; C. W. S. Boggs, Leeds; A. B. Gosse, Royal Free Hospital; W. P. A. Hardwicke, Durham; S. S. Menzies, Birmingham; E. E. Naggiar and P. D. Ramsay, St. Mary's Hospital; and H. Round, Birmingham.

Physiology.—J. B. Bradley, Birmingham; T. J. M. Clapperton, King's College Hospital; W. Barton, St. George's Hospital; A. B. Gosse, Royal Free Hospital; F. H. Hand, St. Mary's Hospital; S. S. Menzies, Birmingham; E. E. Naggiar and P. D. Ramsay, St. Mary's Hospital; H. Round, Birmingham; G. B. S. Soper, Guy's Hospital; and C. J. Taylor, Bristol.

DR. W. J. COLLINS is to be presented with his portrait, painted by Mr. Hubert Herkomer, as a memento of his chairmanship of the London County Council in the Diamond Jubilee year.

ST. THOMAS'S HOSPITAL, WESTMINSTER BRIDGE, S.E.—The committee of this hospital, it is stated, propose to add to the present accommodation two theatres and two new wards for children.

AN AGED PRACTITIONER.—We congratulate Dr. Dennis Embleton of Claremont-place, Newcastle-on-Tyne (retired), on his attaining on Oct. 1st the venerable age of 90 years, and trust that for some years to come he may enjoy his well-earned repose from active practice.

MEDICAL MAGISTRATES.—Mr. Thos. E. Flitcroft, L.R.C.P. Edin., L.F.P.S. Glasg., of Parkhurst, Bolton, and Mr. James Horrocks, dentist, of the same town, have been appointed magistrates for that borough by the Chancellor of the Duchy of Lancaster, Lord James of Hereford.

A MEDICAL CRICKETER.—Mr. E. M. Grace, L.R.C.P. Edin., M.R.C.S. Eng., the coroner for the Lower Division of Gloucestershire, who is well known as a cricketer and the secretary of the Gloucestershire County Cricket Club, has taken in all 10,006 wickets and scored 72,482 runs. This performance covers a period of from 1851 to 1899, but in 1885 Mr. Grace did not play owing to an injured knee. These figures give an average for each season of 208·45 wickets and 1510·04 runs. Mr. E. M. Grace has n fewer than 31 times taken all the wickets in an innings; eight times he has gone in first and carried his bat through the innings and taken every wicket in the following innings of his opponents.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BALCK, J. A., M.B., Ch.B. Edin., has been appointed House Surgeon to the Royal Hants County Hospital, Winchester.

BROWN, J., M.D. Vict., D.P.H., L.R.C.P. Lond., has been re-appointed Medical Officer of Health, Bacup.

BUXTON, EDWARD, M.D., F.R.C.S., M.R.C.P. Edin., D.P.H., has been appointed Medical Officer of Health for the Little Crosby and Hightown Districts, vice Wm. Rowlands, deceased.

DAVEY, E. L., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Walmer Urban District Council.

DIXON, W. E., B.Sc. Lond., M.B., L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed Assistant to the Downing Professor of Medicine, University of Cambridge.

FAULKNER, HUGH, M.B., Ch.B. Edin., has been appointed House Physician to the General Hospital, Birmingham.

FORBES, W. J., M.B., C.Ch., B.A.O., R.U.I., has been appointed Medical Officer of Health for the Knaresborough Rural District, vice J. T. Hislop, resigned.

FRANCIS, H., M.B., B.S. Durh., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Arnold Urban District Council.

GILES, C., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Sleaford Urban District Council.

HARDING, C. HEADLEY, L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Whittlesea Urban District Council.

HODSON, F., M.R.C.S., has been re-appointed Medical Officer by the Hornsea Urban District Council.

HUEY, JOHN J., L.S.A. Lond., has been appointed Medical Officer of Health to the Mexboro' Urban District.

HUMPHRY, L., M.A., M.D. Camb., M.R.C.S., has been appointed Assessor to the Regius Professor of Physic, University of Cambridge.

HUTTON, EUSTACE, M.R.C.S., L.R.C.P. Lond., has been appointed Visiting Surgeon to the Stockport Infirmary.

MITCHELL, ARTHUR M., M.A., M.D., B.C. Cantab., D.P.H. Camb., has been appointed Honorary Assistant Medical Officer to the Royal Surrey County Hospital, Guildford.

MORSE, E., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health for Great Torrington.

PERN, A., L.R.C.P. Lond., F.R.C.S. Eng., has been re-appointed Medical Officer of Health by the South Stoneham District Council.

RATTRAY, P. W., M.B., C.M. Aberd., F.R.C.S. Eng., has been appointed, *pro. tem.*, Medical Superintendent of the Workhouse by the Islington Board of Guardians.

REED, JOHN ARTHUR, M.B., Ch.B. Vict., has been appointed House Surgeon to the Stockport Infirmary.

REYNOLDS, FRANCIS MORTIMER, M.B., C.M. Edin., has been re-appointed Medical Officer of Health for Ottery St. Mary, Devon.

STEPHEN, SOUTHALL, M.B., Ch.B. Edin., has been appointed House Surgeon to the General Hospital, Birmingham.

THORP, HAROLD, M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon to the Warrington Infirmary and Dispensary.

TIPPER, ERNEST H., M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed Surgeon-Lieutenant to the 1st City of London Volunteer Garrison Artillery.

WALLIS, P. E., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the East Grinstead Urban District Council.

WARD, J. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer by the Urban District Council, Grays.

YOUNG, R., M.D. Durh., M.R.C.S., has been re-appointed Medical Officer of Health by the Royton District Council.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM HOSPITAL, London.—Two Resident House Physicians for six months. Apartments, complete board, and washing provided, and an honorarium at the rate of £12 12s. each per quarter will be paid.

BRIGHTON, HOVE, AND PRESTON DISPENSARY (NORTHERN BRANCH), 113, Queen's-road, Brighton.—House Surgeon. Salary £160 per annum, with furnished apartments, coals, gas, washing, and attendance.

CITY HOSPITAL FOR INFECTIOUS DISEASES, Newcastle-upon-Tyne.—Resident Medical Assistant for one year. Salary £80, with board, lodging, and washing.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY, Wakefield.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

COUNTY ASYLUM, Prestwich, Manchester.—Assistant Medical Officer, unmarried. Salary to commence at £125, increasing by yearly instalments of £25 to £250, with board, apartments, and washing.

COUNTY OF LONDON MANOR ASYLUM, Horton, Epsom, Surrey.—A Dispenser. Salary £110 per annum, rising £10 a year to £150, with dinner daily. Apply to the Clerk of the Asylum Committee, Office, 6, Waterloo-place, S.W.

CUMBERLAND INFIRMARY, Carlisle.—Assistant House Surgeon for one year. Salary £40, with board, lodging, and washing.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board and residence.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—Assistant House Surgeon. Salary £50 per annum, with furnished apartments, board, and washing.

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury-avenue, London.—Resident Medical Officer, unmarried, speaking French. Salary £80 per annum, with full board.

GLAMORGAN COUNTY COUNCIL AND CARDIFF CORPORATION.—Bacteriologist to the Joint Committee of the Glamorgan County Council and Cardiff Corporation, and Lecturer on Bacteriology in the University of Cardiff. Salary as Bacteriologist and Lecturer, £300 a year. No pension or payment on account of fees received. Apply to the Clerk, Glamorgan County Offices, Cardiff.

GRIMSBY AND DISTRICT HOSPITAL.—Resident House Surgeon. Salary £80 per annum, board, lodging, and washing.

HOSPITAL FOR THE INSANE, The Coppice, Nottingham.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, attendance, and washing.

HOSPITAL FOR WOMEN, Soho-square, London, W.—House Physician for six months. Salary £30 for that period.

KING'S COLLEGE, London.—The Sambrook Surgical Registrarship (open to King's College students only).

LINCOLN COUNTY HOSPITAL, Lincoln.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

LIVERPOOL STANLEY HOSPITAL.—Senior House Surgeon. Salary £80, with board, residence, and washing.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Surgeon. Also Anæsthetist and Assistant Anæsthetist.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, London, W.C.—Medical Superintendent. Salary £150 per annum, with furnished rooms, lights, warming, and attendance, and a share of the fees of such classes as he may be appointed to conduct.

MIDDLESEX HOSPITAL, W.—Assistant Physician.

NORTH-WEST LONDON HOSPITAL, Kentish-town-road.—Honorary Anæsthetist for twelve months. Also Resident Medical Officer and Assistant Resident Medical Officer for six months. Salaries at the rate of £50 per annum each.

NOTTINGHAM GENERAL DISPENSARY.—Senior Resident Surgeon, unmarried. Salary £180 a year, increasing by £10 annually to £200. Special arrangement for board, &c.

PADDINGTON-GREEN CHILDREN'S HOSPITAL, London.—House Surgeon for six months. Salary at the rate of 50 guineas a year, with board and residence.

PARISH OF HAMMERSMITH.—Medical Officers and Public Vaccinators for the First and Fourth Districts of the Parish. Apply to the Clerk to the Guardians, 75, Fulham Palace-road, Hammersmith, W.

PARISH OF ST. MARY, Islington.—Resident Assistant Medical Officer and Dispenser of Medicines at the Workhouse and Infirmary, St. John's-road, Upper Holloway. Salary £80 per annum, with rations, apartments, and washing. Apply to the Clerk, Guardians' Offices, St. John's-road, Upper Holloway, N.

PONTEFRACT GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer. Commencing salary £130 per annum, rooms, fire, lights, and attendance.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—First and Second Assistant House Surgeons for six months. Salary at the rate of £65 per annum, with board and residence.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, London.—Examiner in Dental Surgery.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Junior Assistant House Surgeon for six months. Board, lodging, and washing provided.

ROYAL FREE HOSPITAL, Gray's Inn-road, London.—Two House Physicians, one House Surgeon, and a Casualty House Surgeon for six months. Board, &c., provided.

ROYAL INFIRMARY OF EDINBURGH.—Superintendent. Salary £500 per annum, with free house, coals, and light.

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with board, lodging, and washing.

ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES, Northampton.—Junior Assistant Medical Officer, unmarried. Salary to commence at £150 per annum, with board, apartments, and washing. Salary increasing £25 per annum to £200.

SUSSEX COUNTY HOSPITAL, Brighton.—House Physician, unmarried. Salary commencing at £50 per annum, and board, residence in the hospital, and washing.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Assistant House Surgeon for six months. Salary at the rate of £30 per annum, with board, washing, and lodging in the hospital.

TOTTENHAM HOSPITAL.—Resident Medical Officer. Salary £60 per annum, with board, residence, and laundry. Also Honorary Physician to out-patients, and Honorary Gynæcologist to out-patients.

VICTORIA UNIVERSITY, Manchester.—External Examiner in Anatomy for three years.

WEST BROMWICH DISTRICT HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, residence and washing.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Surgical Registrar for twelve months. Salary £50.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £110 a year, with board, lodging, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

BRYCE.—On Oct. 5th, at Stroud Green-road, N., the wife of John Richmond Bryce, M.D., D.P.H., Barrister-at-Law, of a son.

BUTTAR.—On Oct. 6th, at Kensington Gardens-square, W., the wife of Charles Buttar, M.D., of a daughter.

EICHHOLZ.—On Oct. 8th, at Bolingbroke-road, Kensington, W., the wife of A. Eichholz, M.D., H.M. Inspector of Schools, of a son.

GROOME.—On Oct. 9th, at Chesterfield House, High-road, Lee, S.E., the wife of Walter Groome, M.B., M.S., of a son.

HOME.—On August 19th, at Devon-street, New Plymouth, New Zealand, the wife of George Home, M.D. Edin., D.P.H. Lond., of a daughter.

LOXTON.—On Oct. 4th, at Belgrave-road, Edgbaston, the wife of Arthur Loxton, F.R.C.S. Edin., of a daughter.

SAINSBURY.—On Oct. 3rd, at Welbeck-street, W., the wife of Harrington Sainsbury, M.D., of a son.

MARRIAGES.

ADAMSON—JOHNSTON.—On Oct. 3rd, at Corstorphine House, Charles Henry Adamson, M.B., C.M., F.R.C.S.E., Russell House, Edmonton, to Margaret Fraser, only daughter of the late Thomas Johnston, Corstorphine House, Midlothian.

KINGDON—MEADOWS.—By license, at St. Gabriel's, Willesden-green, Wilfrid Robert Kingdon, M.B., B.S., of Maitland Park-road, Haverstock Hill, N.W., to Florence Matilda, eldest daughter of James Meadows of Cricklewood.

MCLAREN—INGLIS.—On Oct. 3rd, at St. Andrew's Free Church, Edinburgh, John Shaw McLaren, F.R.C.S.E., to Eva Helen, youngest daughter of the late John Forbes David Inglis, C.S.I., H.M. Bengal Civil Service.

OLVER—RALPH.—On Oct. 5th, at Tamerton Foliott, S. Devon, Thomas Olver, M.R.C.S., L.R.C.P., of Crown Hill, S. Devon, to Mabel, eldest daughter of Captain G. Spinluff Ralph, R.N., of West Park, Tamerton Foliott.

SHIMELD—TAYLOR.—On Oct. 4th, at St. Mary's, Woodford, Essex, James Shimeld, L.R.C.P., L.R.C.S.E., of Ilford, to Mary Elizabeth, second daughter of the late John Taylor, formerly of Sutton Court, Kent.

SWAIN—HARRISON.—On Oct. 3rd, at St. Paul's Church, Clifton, by the Rev. Canon Bindley (cousin of the bride), Principal of Codrington College, Barbados, and assisted by the Vicar, the Rev. W. E. Haigh, Jas. Swain, M.D., M.S., and F.R.C.S., of 4, Victoria-square, to Hilda May, daughter of A. J. Harrison, M.B. Lond., J.P., of Falland Lodge, all of Clifton.

WEBB—CHAMBERLAIN.—On Oct. 5th, at the Church of "Our Lady of Good Counsel," Stoke Newington, by the Rev. Fr. Cutajar, assisted by the Rev. Fr. Hiale, Frederick Edward Apthorpe, M.R.C.S., L.R.C.P., L.S.A., of Cambridge, third son of William T. Webb, of Welling, Kent, to Ada Charlotte, second daughter of Henry B. Chamberlain, of Kyverdale-road, Stoke Newington.

DEATHS.

FLOWER.—On Oct. 7th, at Beaufort West, Bath, in his 85th year, Thomas Bruges Flower, F.R.C.S. Eng.

HORTON-SMITH.—On Oct. 8th, R. J. Horton-Smith, M.A., M.B. Cantab., and of St. Thomas's Hospital, youngest surviving son of R. Horton-Smith, Q.C., in his 27th year.

MOULD.—On Oct. 10th, at Onslow-crescent, London, S.W., J. T. Mould, F.R.C.S., in his 82nd year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE LEGAL RECOGNITION OF MEDICAL ETIQUETTE.

THE *Daily News* of Oct. 10th reports an interesting case which came on for hearing at Market Drayton County Court on Monday last before Judge Wharton. A medical practitioner in the town sued a tradesman for 10*s.* 6*d.* professional fees under the following circumstances. In May last the defendant sent for the medical man to attend an employé who had met with an accident. The medical man at once went, taking his assistant with him, a distance of some six miles. When he arrived, however, he found that the patient had already been attended by another practitioner and that the accident, a broken leg, had been sustained two or three days previously. On ascertaining this he returned home without attending the case. He sent in his account for 10*s.* 6*d.* to defendant, who refused to pay except through the county court. For the defence it was contended that the medical man had not fulfilled his contract, and that he had left the house without treating the patient. Judge Wharton, however, held that professional etiquette was part and parcel of a medical man's profession, and that the plaintiff could not have done other than come away when another practitioner had the case in hand. A verdict for the plaintiff was given, with costs.

We cannot too highly commend in a layman Judge Wharton's view that medical etiquette is part and parcel of the professional life. We are so wont to see medical etiquette described as a series of stupid rules designed by medical men for the mystification of laymen and their own profit, that this recognition that without an ethical code the professional life practically could not go on is a refreshing change. It cannot be too clearly understood that the rules of the self-respecting man's medical life, by which he regulates his conduct towards his colleagues and his clients alike, are every one of them safeguards to the public. How, it may be asked, is it a safeguard to the public that a medical man generally refuses to see another medical man's patient save in consultation? The point is not infrequently raised in lay journals and we have seen it settled to the editorial satisfaction by the cynical comment that the consultation enables two men to have one opinion. Yet a little consideration will make it plain that no medical man could treat with success patients who did not confide themselves to his care, but who were not only anxious themselves to criticise the treatment, but free to invite other medical men to criticise it also. And the second medical man who would then be asked to sit in judgment upon his brother—what a very disagreeable position would his be. Unable to rely upon the patient's statements as to the treatment which had been already applied and equally unable to seek the help of the practitioner whose patient he is taking over, his chances of being right are less than his predecessor's were and his chances of keeping his patient's confidence no greater. This uncomfortable state of things is entirely avoided by the excellent rule which medical men make incumbent upon themselves not to prescribe for one another's patients save by mutual arrangement. No sensible medical man regards his patients as his goods and chattels. He recognises that they are free to employ as their medical adviser whomsoever they like. Nor does a sensible medical man ever object to a second opinion being invited, for his hope will always be to learn all that he can about the sick under his charge. But while a patient is under his charge he must have control of the treatment if he is to do good, and this control he will not have if a multiplicity of advice is followed.

We have taken this example of ethical conduct for comment because of its bearing upon the county court case at Market Drayton, but the contention that the professional etiquette involved in any given situation works as much in the interest of the public as in that of the medical man holds good for the whole of the accepted code. With a recognised if not too sharply defined scheme of conduct to guide them medical men often find it quite hard enough to do what is at the same time right and kind; without any scheme at all they would be at the mercy of circumstances to an extent that could not fail to tell for evil upon the public. While a man acts with the knowledge that he is deserving the moral support of his compeers, he is not likely to be otherwise than a good and useful citizen.

THE VITALITY OF A CATERPILLAR.

To the Editors of THE LANCET.

SIRS,—The following extraordinary phenomenon may be of interest to some of your readers. I have been lately inflating some larvæ of lepidoptera for preservation after the manner of those in Lord Walsingham's collection at the British Museum. At 7.30 yesterday evening I placed a specimen (one of the larger Noctuæ) in a killing-box with chloroform and when apparently quite dead I expressed the whole of its internals and drew out the alimentary canal, leaving only the skin quite flattened out. I then inserted at the anal extremity a fine glass tube and applied the air-pressure in the usual way and it became inflated to something above its normal size. On applying heat in order to dry it it moved and the movements became more and more definite. I then extinguished the spirit lamp and ceased the air-pressure. The skin still remained inflated and on my holding a leaf within its reach it seized it and moved along the edge of it with all six legs precisely the same as if it were alive. Three hours later I removed it altogether from the tube and to my surprise it did not become deflated and actually crawled along, held on to the leaf when suspended in the air, and also retained the prehensile power of the claspers. It has now been in a box for 27 hours since the whole of the internals were expressed and is still quite lively and moves upon being irritated, although when held up to the light it can be easily seen that it is quite empty of anything but air. Under a microscope there appears to be no movement of the spiracles, but the legs are pushed out and drawn in, and the larva to all appearances is alive except for a stiffness of the hinder segments. Is this reflex action or life?—I am, Sirs, yours faithfully,

Grove Park, Kent, Oct. 3rd, 1899. WALTER HOWGRAVE, R.C.A.

"GRATUITOUS ATTENDANCE ON MEMBERS OF THE MEDICAL PROFESSION AND THEIR FAMILIES."

To the Editors of THE LANCET.

SIRS,—In thanking you for your article on this subject in THE LANCET of Sept. 30th allow me to emphasise the duty of those in affluent circumstances or who are wealthier than the medical *confrère* called in to tender fees for services rendered—a duty not always recognised in the highest circles in the profession, as the following instance will show. A very distinguished practitioner was staying in the country when a member of his family was seized with a short but dangerous illness. The aid of a practitioner living four miles or more away was sought and he attended most willingly throughout the illness, but at no little inconvenience to himself and at an out-of-pocket expense of some pounds for hiring. On the recovery no word was said as to fees, but some time after the junior practitioner received a present of a book. This I heard casually from the practitioner himself, who, of course, made no complaint.

I am, Sirs, yours faithfully,

London, Oct. 6th, 1899. COURTESY AND JUSTICE.

A DISCREDITABLE HANDBILL.

THE following handbill has been sent to us for comment:—

TWO THOUSAND BOXES
OF
DOCTOR BLAUD'S
BROWN WINDSOR SOAP
WILL BE
GIVEN AWAY FREE OF CHARGE
TO
THE FIRST TWO THOUSAND CUSTOMERS
AT
LEONARD'S NEW MEDICAL HALL,
162,
GT. BRUNSWICK-ST.
(Corner of Westland Row),
ON THE
OPENING DAY.
Saturday, October 7th, 1899.

J. LEONARD & CO.,
APOTHECARIES AND CHEMISTS,
19 North Earl Street, 39 Henry Street,
76 Dame Street, 28 James' Street,
136 Gt. Britain Street, DUBLIN.

We hardly anticipated that Mr. Leonard was a medical man, but as there would have been no point in bringing the handbill to our attention unless he had belonged to the medical profession, we consulted the Medical Directory. We there find that at 19, North Earl-street, Dublin, lives Mr. John Leonard, L.R.C.P., L.R.C.S., and L.M. Edin., and L.A.H. Dublin. These corporations might keep their Licentiate within bounds.

MEDICAL MEN AND DISPENSING.

To the Editors of THE LANCET.

SIRS,—With regard to the editorial remarks on dispensing by medical men which appeared in THE LANCET of Oct. 7th it seems to be assumed that medical men must all have had sufficient opportunity of learning the working details concerned in the dispensing of prescriptions and of becoming practically acquainted with the physical properties of the various pharmaceutical preparations. This is doubtless the case with those who, like myself, went through the old-fashioned apprenticeship with a country practitioner with whom I began by corking the bottles and wrapping them neatly in paper, but it is certainly assuming too much when applied to the neo-practitioner of to-day. The instruction which the latter receives in materia medica may enable him to recognise many of the original drugs and chemical substances employed in therapeutics, but he need never set eyes on a single Galenical preparation and as for the practical work of pharmacy this is restricted to a perfunctory course with the hospital dispenser the value whereof, unless he be an unusually diligent and persistent student, may be simply *nil*. Only the

other day I had occasion to ask such a student who had just completed this course at a London hospital to make up a simple mixture containing only two ingredients. To my surprise he could not read the signs for drachms and ounces and he was even unaware that a drachm was equivalent to 60 grains. As this student is on the high road to obtain the M.D. of the London University I do not see what subsequent opportunity he is likely to have of acquiring this really indispensable knowledge. I say "indispensable" advisedly, because such knowledge is indispensable even if as a practitioner he should not be called upon to dispense his medicines, for without it he is likely to elaborate prescriptions which are the despair of pharmacists.

I am, Sirs, yours faithfully,

Gower-street, W.C., Oct. 12th, 1899. ALFRED S. GUBB, M.D. Paris.

*** Dr. Gubb on consulting our article will see that we have assumed nothing. All students have sufficient opportunity of learning to dispense, though some of them may not avail themselves of it.—ED. L.

"CHLOROFORM ANÆSTHESIA—A QUERY."

To the Editors of THE LANCET.

SIRS,—I have read with considerable interest Dr. Edmunds's letter in THE LANCET of Sept. 30th, on the subject of Krohne's improved chloroform inhaler. I also have lately given the apparatus an extensive trial, and have come to the conclusion that it is an admirable method of maintaining chloroform anæsthesia, but, except in the case of children and very feeble adults, a most tedious method of producing it. In the case of robust adults I have found that the length of time required to produce surgical anæsthesia with this apparatus is so great as to render its use exceedingly inconvenient. In these cases it is, however, very handy for the purpose of prolonging anæsthesia after the patient has been rendered unconscious by gas and ether, as its graduated dosage makes it easy for the administrator to maintain or modify the depth of anæsthesia according to the requirements of the operator.

I am, Sirs, yours faithfully,

London, Oct. 4th, 1899. J. HENRY CHALDECOTT.

"LAURIA FUND."

To the Editors of THE LANCET.

SIRS,—We desire to acknowledge the receipt of the following amounts in aid of the above fund. The sum of two guineas acknowledged as having been received from J. O. W. should have been acknowledged as from Mr. L. P. Gibson.

We are, Sirs, yours faithfully,

JOHN H. BARRS,
6, Wandsworth-bridge-road, S.W.
EDWARD B. HARTNELL,
1, Ryecroft-street, Fulham.
} Hon. Secs.

Oct. 12th, 1899.

	£	s.	d.		£	s.	d.
Mr. Henry Butlin	2	2	0	Dr. G. Caldwell Stephen	3	3	0
Mr. Howard Marsh	1	1	0	Mr. J. J. Edwards	1	1	0
Mr. T. W. Pattinson	0	10	6				

"THE LYMPH OF THE NATIONAL VACCINE ESTABLISHMENT."

To the Editors of THE LANCET.

SIRS —My experience of the above may be interesting to "Pub. Vacc." and others, as the many results recorded have not been at all uniform, some public vaccinators having excellent consequences, others so bad that they have taken to lymph other than that supplied by the National Vaccine Establishment. I have had a mixed result—at one time a run of good cases and not all from the same "series," at another some altogether good and others with one, two, or three vesicles. From July 18th to Sept. 29th I have vaccinated 73 children, making 292 insertions and obtaining 252 vesicles. One of these cases was instructive: two children were vaccinated in adjoining houses; four vesicles resulted in one, only one in the other. I discovered afterwards that the mother had washed off three of the applications. If the lymph has dried, can washing off spoil the vaccination? In connexion with the new Vaccination Act I should like to know what constitutes "calling and offering to vaccinate"? The vaccination officer served a notice and was told amidst oaths that she would not have her child butchered. I called in accordance with the instructions and saw a girl of 16 years who had been left in charge of the baby with instructions to refuse to have the child done. Does that constitute "refusal" or must I go day after day until I see the mother or father personally, which will be never, as she has openly avowed her intention of not being at home when I call? Alas for the dignity of the profession.—I am, Sirs, yours faithfully.

Oct. 9th, 1899. PUB. VACC. II

"A HAPHAZARD METHOD."

To the Editors of THE LANCET.

SIRS,—I infer from your editorial note on my letter which you kindly published in THE LANCET of Oct. 7th that I have not explained my views on the question as clearly as I should like. I had no idea when writing of prompting medical practitioners in prescribing without seeing patients; on the contrary, I consider any practitioner very foolish in compromising himself by so doing. At the same time it seems to me unfair to blame them so long as the law allows itself to remain in its present state of inertia with regard to the grossly illegal and reckless practices carried on by the majority of chemists. Bad as the system may be, the public, as I wanted to point out, are less likely to suffer in this respect at the hands of medical men than at those of druggists, for the simple reason that the former by virtue of their training are more likely to discriminate *in absentiâ* than druggists who have had no training whatever with regard to the treatment of disease. As you justly point out in your editorial note, because one person does wrong is no reason why another should; yet, after all said, it might form a question in ethics whether a medical man in the present inactive state of the law actually does wrong however foolishly he may act—at any rate, he commits a lesser evil and prevents a greater, as he, unlike the druggist, commits no breach of law, because he carries on his legal craft. However, if medical men are to be entirely tabooed from prescribing without seeing patients whilst druggists are allowed to take their place the public may have an opportunity of discovering sooner or later, as Shakespeare puts it, whether it be better to face the ills they have rather than to fly to others they know not of.

I am, Sirs, yours faithfully,

Queen's-road, S.E., Oct. 7th, 1899. M.R.C.S.

AN ANCIENT OVERSEER'S POOR-BOOK.

A BRISTOL paper of Sept. 30th contained a copy of the Overseer's Poor-book between the years 1656–1698 for the parish of Westbury-on-Trym, Gloucestershire. The following entries occur:—

Year.		£	s.	d.
1693.	Paid the chirurgion for curing of Richad Jones' legg	0	10	0
1698.	Paid to R. Wade for going for a Bonesetter ...	0	2	0
	Spent that day that E. Hoard's bones was set ...	0	5	6
	Paid to the Bonesetter	0	10	0
	Spent upon the Bonesetter	0	0	6

A GENTLEMAN writing to the *Echo* says that the current number of THE LANCET contains a covert sneer at him. He desires that we should raise a definite issue, concluding with a Latin remark to the effect that Homer sometimes nods. We doubt if Homer was ever so sleepy as to write quite such a prescription as the one which we quoted last week.

Dr. B.—In our opinion a fair scheme would be for the incomer first to buy a half-share at the rate, say, of two years' purchase. Then the two partners, who are going to share the income equally, must share the outgoings equally and will have to bear between them the expenses incidental upon starting the branch practice. But there can be no custom in the matter. We advise A and B to draft some such agreement as we suggest, to add to it and subtract from it until each is satisfied, and then to instruct a solicitor to embody their mutual wishes in a proper legal instrument for duplicate signature.

Perplexed (Truro).—When the inquest is upon the body of a person who has died in a lunatic asylum, public hospital, or infirmary, the medical officer is not entitled to a fee for making a post-mortem examination; but it is not so certain that he is not entitled to a fee for his attendance as a witness. However, we cannot advise our correspondent to make a legal demand for the fee in the present state of the law.

Perplexed (North Wales).—C must settle the matter amicably with A. We do not think that he should join B, with the chance that thereby B would secure some of A's patients, unless A is agreeable. This A probably will be if his own prospects are not endangered. And if they are endangered C, we hope, would not like to be instrumental in damaging his former principal.

T. E. W.—We are unable to answer either of our correspondent's questions because the official reports containing the requisite information have not as yet been published. The Registrar-General's annual report for 1898 will as usual be noticed in our columns almost immediately after publication.

A. B.—1. See THE LANCET, Sept. 23rd, 1899, p. 869, where a case in point is detailed under the title "An Unreasoning Woman." 2. The supervising medical officer has charge of the patients unless, as is sometimes done, arrangements are made to the contrary.

Alpha.—Lists of institutions where the open-air treatment of consumption is being tried were published in THE LANCET of Sept. 9th and Sept. 23rd, 1899.

IF *An Old Resident* will send us an account of the meeting in question we will comment upon the matter.

Middlesex's communication will receive a reply.

During the week marked copies of the following newspapers have been received: *Pretoria News, Bradford Observer, Leicester Daily Post, Birmingham News, Derbyshire Courier, Bridgwater Independent, Surrey Mirror, Manchester Guardian, Blackburn Guardian, Hull Daily Mail, Advocate of India (Bombay), Sheffield Daily Telegraph, Gainsborough Leader, West Morning News, York Daily Herald, Sussex Daily News, Leeds Mercury, Times of India, Pioneer Mail, Architect, Builder, Citizen, Scotsman, Nottingham Daily Guardian, Liverpool Daily Post, Trowbridge Chronicle, Bristol Mercury, Newcastle Morning Mail, Birkenhead Advertiser,*

Staffordshire Sentinel, Grimsby News, Yorkshire Post, Bath Daily Chronicle, Calcutta Englishman, Glasgow Herald, Dundee Advertiser, East Anglian Daily Times, Manxman Isle of Man, Brighton Gazette, Sanitary Record, Hertfordshire Mercury, Mining Journal, City Press, Local Government Chronicle, Reading Mercury, St. Andrew's Citizen, Surrey Advertiser, Local Government Journal, Evesham Journal, University Correspondent, West Australian, Freeman's Journal, Weekly Free Press and Aberdeen Herald, Manchester Courier, &c.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (21st).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (17th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Mr. Watson Cheyne (President): Opening Address. Papers:—Dr. Mott: The Investigation of the Nervous System in Two Cases of Congo Sleeping Sickness (illustrated by the magic lantern and by microscopical preparations).—Dr. P. Manson: Short Description of the above Two Cases of Congo Sleeping Sickness and Remarks on the Etiology of the Disease. Card Specimens:—Dr. F. W. Andrewes and Dr. H. M. Fletcher: Fifteen Specimens illustrating the Lesions in Bubonic Plague.

CHELSEA CLINICAL SOCIETY (Parish Hall, Pavilion-road, Sloane-square, S.W.).—8.30 P.M. Dr. J. F. Palmer (President): Variations in Nature and their Clinical Bearings. (Opening Address.)

WEDNESDAY (18th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Lantern Demonstration:—Mr. Enock: British Trap-door Spiders.

THURSDAY (19th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8 P.M. Cases and Card Specimens. 8.30 P.M. Mr. A. Critchett (President): Introductory Address. Papers:—Mr. R. W. Doyne: (1) Notes on the Value of Radiant Heat in Eye Disease; (2) Notes on Recurrent Superficial Necrosis of the Cornea.—Mr. J. B. Lawford: Keratitis in Acquired Syphilis.

HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road).—Clinical Evening.

FRIDAY (20th).—SOCIETY OF ANÆSTHETISTS (Café Monico).—6.30 P.M. Annual Meeting. 7.15 P.M. Annual Dinner.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (16th).—MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND (Bethlem Hospital, S.E.).—3 P.M. General Business. Papers:—Dr. Hyslop: Some Rare Forms of Skin Affection in the Insane.—Dr. Craig: Note on the Value of Erythrol Tetranitrate in the Treatment of certain Cases of Melancholia.—Dr. Stoddart: On Metabolism of the Nerve Cell. 6.30 P.M. Dinner at the Café Monico, Piccadilly-circus.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. A. E. Saunders: The Clinical Examination of the Blood.

TUESDAY (17th).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Dr. T. D. Savill: On the Diagnosis of Disorders of the Nervous System with Typical Cases of the Principal Divisions.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-sq., W.C.).—3.30 P.M. Dr. J. Taylor: Tabes Dorsalis.

WEDNESDAY (18th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—4 P.M. Dr. G. Vivian Poore: Harveian Oration.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Green: Hæmoptysis. (Opening Lecture.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—4.30 P.M. Dr. T. D. Savill: Ringworm Favus and Pityriasis Versicolor. (Post-graduate Course.)

THURSDAY (19th).—THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. F. B. Batten: The Pathology of certain Nervous Affections in Children.

CHARING-CROSS HOSPITAL.—4 P.M. Mr. Waterhouse: Demonstration of Surgical Cases. (Post-Graduate Course.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. A. E. Saunders: The Clinical Examination of the Blood.

THE LONDON SKIN HOSPITAL (40, Fitzroy-square, W.).—4 P.M. Mr. J. Startin: Interesting Clinical Cases (illustrated by lantern slides).

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 12th, 1899.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Oct. 6	30·18	N.E.	0·01	72	56	45	47	49	Cloudy
,, 7	30·19	S.W.	...	84	58	44	44	45	Foggy
,, 8	30·30	W.	...	90	60	40	41	43	Foggy
,, 9	30·33	S.	...	87	61	43	45	46	Foggy
,, 10	30·28	S.W.	...	95	61	39	40	41	Foggy
,, 11	30·00	S.E.	...	95	64	41	45	46	Foggy
,, 12	29·67	S.	...	77	62	46	53	54	Foggy

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them. Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

Communications, Letters, &c., have been received from—

A.—Mons. J. Astier, Paris; Messrs. Ayrton and Saunders, Liverpool; Messrs. Allen and Hanburys, Lond.; Mons. F. Alcan, Paris; Messrs. S. Allsop and Sons, Burton-on-Trent; Mr. M. Adler, Hanley.

B.—Dr. W. Broadbent, Brighton; Dr. C. R. Beevor, Lond.; Messrs. Brady and Martin, Newcastle-on-Tyne; Birmingham General Hospital, House Governor of; Beales, Ltd., Lond.; *Bath Herald*; Dr. Boirelli, Monaco; Mrs. S. A. Blackmore, Wandsworth; British Somatose Co., Lond.; Messrs. J. W. Bishop and Sons, Lond.; Mr. S. H. Benson, Lond.; Messrs. Bates, Hendy, and Co., Lond.; Messrs. C. Barker and Sons, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Mr. W. H. Bennett, Lond.; Mr. G. D. K. Bannerman, High Wycombe.

C.—Dr. Harry Campbell, Lond.; Mr. Jackson Clarke, Lond.; Mr. Treacher Collins, Lond.; Messrs. J. and A. Churchill, Lond.; Clayton Hospital, Wakefield, Hon. Secretary of; Cumberland Infirmary, Carlisle, Secretary of; Messrs. Crossley, Moir, and Co., Lond.; County Asylum, Prestwich, Superintendent of; Staff-Surgeon R. Corcoran, H.M.S. *Resolution*, Channel Squadron; Mr. F. G. H. Cooke, Lond.; *Clinical Review*, Chicago, Editor of; Coach, Newcastle-on-Tyne; Cortland Wagon Co., Lond.; Mr. F. W. Collinson, Preston; Mr. R. S. Cardell, Tonbridge.

D.—Mr. A. Denison, Glasgow; Dr. Dhingra, Lond.; Messrs. Derry and Sons, Nottingham; Paul R. Derrick Advertising Agency, Lond.; Mr. H. Drewry, Nottingham; *Dewsbury Reporter*, Editor of; Dr. Walker Downie, Glasgow.

E.—Examination Hall, Lond.; Mr. C. W. Edwards, East Grinstead; E. D.; E. W.

F.—Mr. A. L. Franklin, Coventry; Messrs. Ferris and Co., Bristol; Mr. F. H. Foulds, Droitwich; F. J. S.; Mr. Henry Frowde, Lond.

G.—Herr R. Gesell, Weimar; Glamorgan County Council, Clerk of; Mr. John Gay, Lond.; General Medical Council, Registrar of; Messrs. C. Griffin and Co., Lond.; Mr. W. Gobbett, Ipswich.

H.—Dr. W. A. Hollis, Hove; Major F. W. C. Hawkins, I.M.S., Hamsey; Mr. A. Hind, Aston; Mr. O. Holmes, Pontefract; Dr. C. F. Harford-Battersby, Lond.; Mr. J. B. Hogg, Goodna, Queensland; Miss Harwarden, Croydon; Dr. J. B. Hall, Bradford; Messrs. Hazell, Watson, and Viney, Lond.; Mr. S. T. Haddelsey, Great Grimsby; Mr. A. F. Hort, Harrow; Hammersmith-road (9)); Mr. J. Heywood, Manchester; Mr. A. R. Henchley, Blagdon.

I.—Messrs. Ingram and Royle, Lond.; Imperial Accidant, &c., Insurance Co., Lond.; Indignant.

J.—Mr. T. Jones, Lond.; Dr. Raymond Johnson, Lond.; J. H. D.; J. H. R.; J. L.

K.—Dr. G. B. Keith, Lond.; Dr. G. Kelling, Dresden; King's College Hospital, Warden of; King Arthur's Castle Hotel, Tintagel, Proprietor of; Mr. A. F. S. Kent, Bristol.

L.—Dr. W. Forbes Leslie, Lond.; Liverpool Stanley Hospital, Secretary of; Messrs. Larcom and Vesey, Portsmouth; Messrs. Lee and Nightingale, Liverpool; Mr. H. K. Lewis, Lond.; London Throat Hospital, Secretary of; Messrs. Leete and O'Connell, Lond.

M.—Dr. B. A. Martin, Lond.; Messrs. Meister, Lucius, and Brüning, Lond.; Medical Society of Victoria, Melbourne, Hon. Secretary of; Medical Graduates' College and Polyclinic, Lond., Secretary of; Messrs. Mansell, Hunt, Catty, and Co., Lond.; *Medical and Surgical Review of Reviews*, Lond., Secretary of; Mr. J. May, Lond.; M. C. S.; Mr. A. D. MacLeod, Samastipur, India; Mr. T. S. Mansford, Lond.; Mr. W. Moir, Llanwrst; Dr. J. W. Moore, Dublin; Dr. R. Mitchell Bury; Dr. H. W. G. Mackenzie, Lond.; Mr. W. A. Milligan, Bristol; Mr. W. Milligan, Manchester.

N.—Newcastle-on-Tyne City Hospital, Secretary of.

O.—Messrs. Oliver and Boyd, Edinburgh; O. S.

P.—Dr. F. J. Poynton, Lond.; Mr. J. B. Platt, Manchester; Mr. G. Pirrie, Perth; Dr. W. A. Potts, Edgbaston; Pennsylvania University Library, Philadelphia, U.S.A.; Mr. W. Poppelreuter, Manchester; Messrs. Parke, Davis, and Co., Lond.; Mr. Young J. Pentland, Edinburgh.

R.—Mr. C. B. Rossiter, Lond.; Dr. J. D. Rice, Lond.; Royal Halifax Infirmary, Secretary of; Dr. A. Rabagliati, Bradford; Messrs. Roberts and Co., Lond.; Royal Devon Exeter Hospital Assistant Secretary of; Mr. M. Reid, West Allen; Royal Albert Asylum, Lancaster; Dr. G. A. Reid, Southsea; Dr. Lloyd Roberts, Manchester.

S.—Dr. P. B. Smith, Aberdeen; Messrs. Street and Co., Lond.; Smith's Advertising Agency, Lond.; Sussex County Hospital, Brighton, Secretary of; Dr. K. R. Sleeper, Hanover, U.S.A.; Messrs. Spiers and Pond, Lond.; Messrs. Street Bros., Lond.; St. George's Hospital Medical School, Council of; Saarburg Moselle Export Co., Homburg; Mr. A. Stenhouse, Glasgow; Miss J. K. Shuttleworth, Southport; Mr. J. L. Stretton, Kidderminster.

T.—Mr. J. Rochelle Thomas, Lond.; Dr. J. C. Thresh, Chelmsford; Mr. F. Treves, Lond.; Taunton and Somerset Hospital, Accountant of; Herr G. Thieme, Leipzig; Messrs. C. Taylor and Co., Lond.; Mr. W. G. Taylor, Bromsgrove.

W.—Miss Wight, Lond.; Messrs. R. R. Whitehead and Bros., Lond.; Messrs. J. Wright and Co., Bristol; Messrs. Wilcox and Co., Lond.; Dr. A. Wauchope, Glasgow; Mr. W. H. Williams, Sherborne.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. F. C. Angear, Chatham; Mr. R. R. Anderson, Fern Hill; A. G. G., Taplow; A. T. S.; Professor C. Allbutt, Cambridge; Apollinaris Co., Lond.; A. C. P., Bosom; A. R. G.; A. M. McF.; Alpha, Sheffield; Ayr County Hospital, Secretary of; Messrs. Armour and Co., Lond.; Dr. H. W. Arbuckle, Thorne.

B.—Dr. P. Buchanan, Coleford; T. B. Browne, Ltd., Lond.; Dr. L. Bennett, East Ilsley; Messrs. J. Bell and Co., Lond.; Mr. R. Baker, Birmingham; Mr. D. Brereton, Gildersome; Mr. W. Bates, Lond.; Mr. J. B. Barton, Lond.; Miss Barton, Dublin; Mr. G. Billing, Blackpool; Dr. W. Burns, Crawshawbooth; Mr. R. C. Bartlett, Romsey; Mr. F. Barrow, Rothbury; Mr. T. C. Bodycote, Lutterworth; Brighton, &c., Throat and Ear Hospital, Secretary of.

C.—Mr. W. F. Clay, Edinburgh; Mr. D. J. Carroll, Ballynattin; Dr. J. W. Cook, Colchester, C. R. K.; C. D., Herne Bay; Mr. J. R. Cornish, Manchester; Mr. B. H. Coombs, Manchester; Dr. O. J. Currie, Pietermaritzburg; C. M. L.; C. B. M.; Dr. W. F. Colclough, Oporto; Mr. H. S. Cooper, Brightlingsea; C. E. P.

D.—Mr. F. A. Daniell, Epsom; Durham County Asylum, Winterton, Steward of; Dr. A. S. Dick, Cathcart; Dr. T. Dewar, Hetton-le-Hole; Mr. F. W. H. L. Day, Baldock; D. C.; Mr. T. Dixon, Lond.; Doctor.

E.—Mr. C. Etheridge, Whitstable; E. V. L.; E. R.; E. J. G.; E. W.

F.—Dr. P. Fraser, Carnarvon; Dr. R. T. Fison, Salisbury; F. J. M.; Faithful, Tadworth; F. le F. M.; Mr. J. Fawbert, Goole; Finsbury Dispensary, Secretary of; Mr. R. F. Flood, Bundoran; Fellow's Manufacturing Co., Lond.; Dr. V. H. Fisher, Howden; F., Brighton; F.R.C.S., Colchester.

G.—Mr. J. C. Garman, Warbleton; Dr. Griffith, Milford Haven; Mr. J. Gray, Manchester; Mr. J. Gibson, Leeds; Mr. P. Gross, Lond.; Mr. W. G. Gray, Holsworthy; Surgeon C. B. Gittings, R.N., H.M.S. *Pembroke*, Chatham; G. G. C.

H.—Mr. G. Hermanni, Lond.; Dr. A. J. Harrison, Clifton; Mr. W. Halley, Lond.; Mr. P. A. Heeland, Lond.; H. R.; H. C. W.; H. F.; H. H.

J.—Mr. J. J. Jones, Sandgate; Dr. D. M. Jones, Aldershot; Mr. F. F. Jones, Llanfyllin; J. D.; Mr. W. Jacobsen, Copenhagen; J. A. K. G.; Dr. Jones, Newcastle Emlyn; J. K. S., Southport.

K.—Dr. C. F. Knight, Edinburgh; Dr. J. P. Kitson, Cleobury Mortimer; Mr. W. Kirwan, Oranmore, Ireland; Messrs. Kilner Bros., Lond.; K., Stoke Newington.

L.—Mrs. Lappin, Gilford, Ireland; London Hospital, Warden of; Lanark District Lunacy Board, Hamilton; Miss Lewis, Bournemouth.

M.—Mr. W. A. Mushé, Lond.; Dr. A. D. Macpherson, Littlehampton; Mr. R. Marett, Avranch, Jersey; Mr. W. L. W. Marshall, Huddersfield; Medicus, Lond.; Mr. C. F. Myers-Ward, Sheffield; Miss M.; Dr. J. McGregor, Ayr; Mr. J. Mayne, Carn Brea; Mr. H. C. Moore, Hereford; M. W. R.; Dr. J. Mitchell, Southwaite; Manchester Hospital for Consumption, Secretary of; Mr. J. Morgan, Langport; Dr. Marshall, Blackburn; Mr. C. E. Male, Cottenham; Medicus, Birmingham; Mr. J. Molineux, Hessle; Dr. A. A. McNab, Armley; Mr. R. Maples, Kingsclere; Dr. T. G. Mathews, Tibehelf.

N.—Norfolk, Lond.; N. O'D, B.; Northern Medical Association, Glasgow, Secretary of.

O.—Dr. J. J. O'Hagan, Garston; Mr. T. Olver, Crown Hill; O. G.

P.—Dr. T. W. Parry, Youlgreave; Mr. H. A. Pearson, Silverdale; Messrs. C. Pool and Co., Lond.; Mr. J. L. Pinchin, Leytonstone; Parish of St. Mary Islington, Clerk of.

R.—Mr. J. W. Rodgers, Liverpool; Messrs. Riddle and Co., Lond.; R. B.; R. W. J.; R. H. O.; Dr. J. H. Rowe, Cowling.

S.—Mr. J. S. Sharman, Norwood; St. Andrew's University, Secretary of; Dr. E. Smith, Lond.; Mr. J. Sellers, Lond.; Dr. C. S. de Segundo, Lond.; Dr. J. A. Shaw-Mackenzie, Lond.; Mr. A. A. Stempel, Lond.; Mr. F. W. Storry, Stroud; St. Mungo's College, Glasgow, Treasurer of; Dr. W. P. Sandilands, Maybole; Messrs. M. Samuel and Co., Lond.; Mr. F. J. G. Stephenson, Diss; S. P. L.; Messrs. Sargent and Sargent, Lond.

T.—Dr. C. E. Tanner, Farnham; Mr. J. Thin, Edinburgh; T. M.; T. J.; T. F.

U.—University of Durham College of Medicine, Newcastle-on-Tyne.

V.—Messrs. G. Van Abbott and Sons, Lond.

W.—Dr. O. Williams, Glandovey; Mr. O. Wainwright, Brentford; Westminster General Dispensary, Secretary of; Worksop Dispensary, Hon. Secretary of; Dr. B. Watson, Sale; W. R. A.; Miss Wight, Lond.; W., Banbury.

EVERY FRIDAY. THE LANCET. PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris

NORDRACH TREATMENT FOR CONSUMPTION.

THE essentials of the Treatment are fresh air, rest, and above all NOURISHING FOOD, the quantity and quality of which are of the utmost importance.

PANCREATIC EMULSION

is not a quack medicine, but a FOOD made on correct scientific principles, supplying the solid fat of an ordinary dietary in a perfectly palatable and easily assimilated form.

Numberless and quite recent Testimonials from Medical Men, which medical etiquette forbids our publishing, testify emphatically to the immense benefit that is derived when it is taken, *increase of weight and well-being quickly resulting.*

In the NORDRACH TREATMENT it is found that as nutrition advances so will dyspepsia disappear. This is one of the most marked characteristics of the results of taking PANCREATIC EMULSION, which patients so gratefully note.

It would doubtless be a valuable addition to the dietary at the Nordrach and other institutions; but for a long time these institutions can only reach the few and well-to-do. For the thousands who cannot avail themselves of them, *this Food enables patients to carry out at home the principles of the Treatment.*

It has, in fact, for many years been of inestimable advantage on the very lines which quite recently have been brought so prominently forward.

SAMPLES FREE on Application, and a TRIAL QUANTITY to INSTITUTIONS.

SAVORY & MOORE,

SOLE MANUFACTURERS.

"APENTA"

THE BEST NATURAL APERIENT WATER.

APENTA WATER IN THE TREATMENT OF OBESITY.

"The *Berliner Klinische Wochenschrift* for March 22nd, 1897, speaking of some experiments made under Professor Gerhardt's direction in the Charité Hospital as to the value of APENTA water in the treatment of obesity, says that such experiments could not be carried out until quite recently, on account of the inconstant composition of the bitter waters coming into the market. In this respect, the APENTA water is favourably circumstanced, and it was chosen for these observations because of its constancy of composition. The conclusions arrived at as to the value of APENTA in the treatment of obesity, and as to its influence on tissue-change without causing any nutrient losses, were that it succeeded in producing a reduction of fat in the body without detriment to the existing albumen, and that the general health of the patient suffered in no wise, and the cure ran its course in a satisfactory manner."
—NEW YORK MEDICAL JOURNAL, Feb. 5th, 1898.

"REGIMEN FOR THE OBESE." Cards forwarded to the MEDICAL PROFESSION on application to

THE APOLLINARIS CO., LTD., 4, STRATFORD PL., LONDON, W.

HARVEY'S
SUGAR-FREE PALE ALE

(Protected by Her Majesty's Royal Letters Patent),

BREWED FROM FINEST MALT AND HOPS.
THE ONLY ALE ABSOLUTELY FREE FROM SUGAR.

Tonic—Appetising—Invaluable in cases of Diabetes, Gout, Rheumatism, Dyspepsia, or tendency to Obesity.

An article in THE LANCET says: "For years I have been unable to take beer as a beverage on account of the lethargy, indigestion, pain, and stiffness which invariably followed such indulgence; but for three months continuously I have taken one glass of this Sugar-free Pale Ale at luncheon without the slightest 'rheumatic' effects."
—THE LANCET, August 14th, 1897.

SUGAR-FREE PALE ALE.—"We have received from Messrs. Harvey & Co., of the Pellon Brewery, Halifax, samples of Pale Ale, which is claimed to be Absolutely Free from Sugar. The extractive matter, on being submitted to the action of yeast, showed no signs of Fermentable Sugar. It is, therefore, a Non-Saccharine Pale Ale as stated."
—BRITISH MEDICAL JOURNAL.

SUGAR-FREE PALE ALE.—"It is quite true, according to our examination, that this Beer is Free from Sugar. It possesses an agreeable, light, bitter flavour, and forms an acceptable beverage."—THE LANCET.

SPECIAL TERMS allowed to the Medical Profession, to whom a SAMPLE BOTTLE will be sent FREE on application.

The Sugar-free Pale Ale is supplied, upon receipt of cheque or postal order. Imperial Half-pints, 3s. 9d. per dozen; Reputed Pints 4s. 9d., and Reputed Quarts 8s. 6d., per dozen.

THROUGH GROCERS, WINE AND SPIRIT MERCHANTS:
HARVEY & CO., PELLON BREWERY, HALIFAX; and
BURGOYNE, BURBIDGES, & CO., 12 & 16, COLEMAN STREET, E.C.

THE WM. S. MERRELL CHEMICAL CO.,

ESTABLISHED 1830.

Fluid Hydrastis—This is not a Fluid Extract; and in prescribing, the word "Extract" should not be used. Fluid Hydrastis represents all the active medicinal constituents of the drug, freed from the associated resinous principles. It is non-alcoholic, non-resinous, non-irritating, and is the great corrector of all abnormal conditions of the mucous surfaces. Mixes with alcohol, glycerin, wine, syrup or water, without precipitation.

TRADE MARK REGISTERED.

The Great Tonic and Corrector of the Mucous Surfaces.

FLUID HYDRASTIS.

NON-RESINOUS. NON-ALCOHOLIC.

BLAND AND NON-IRRITATING.

FLUID HYDRASTIS IS NOT SOLD IN BULK.

In Leucorrhœa,
with thick albuminous discharge like the white of an egg, use locally by injection, 1 to 4 drs. to one pint of water, three or four times per day.

In Gonorrhœa,
as an injection; and in *Balanitis* as a wash; use 1 to 2 drs. to water 4 oz.

In Stomatitis,
Pseudo-membranous, ulcerative, or gangrenous, when the inflammation is sub-acute or characterised by profuse secretion of ropy mucus, use as a gargle or wash in proportion of 1 to 2 drs. to water 4 ounces. When the breath is offensive, Pot. Chlorate or Baptisia assists its action.

In Cystitis,
acute and chronic, when the urine is pale or greenish, and viscid from abundance of mucus, use internally 1 to 4 drs. in water 4 ounces. In the severer cases of Chronic Cystitis with phosphatic urine, rinsing out the bladder with tepid water, and following with Fluid Hydrastis 1 to 2 drs. to water 4 ounces (one ounce to be used as an injection into the bladder) is often of great benefit.

In Dyspepsia,
with undue activity of the mucous glands and deficient action of the gastric follicles, of which the symptoms are a heavily loaded tongue, especially at the base; and in the morning dull aching pains in the stomach, with sinking sensations, nausea, and occasional vomiting of vitiated mucus, use ½ to 1 ounce Fluid Hydrastis to a pint of sherry or native wine. Dessert-spoonful three or four times a day.

In Intermittents,
especially of the type characterised by disease of the *Gastro*-intestinal mucous membrane, with nausea, heavily coated tongue, broad and flabby and pale, or coated with yellow, dirty mucus; bowels constipated, or when moved, evacuations clay-coloured or streaked with mucus, use 1 to 4 drs. to water 4 ounces. Teaspoonful every three or four hours.

In Catarrh of the Intestines,
and superficial ulceration of the same; in fistula-in-ano, and hæmorrhage from the rectum. Internally, and locally by injection, 1 to 4 drs. to water 4 ounces.

As a Local Application,
to prevent decomposition, apply to the surface of cancerous growths and unhealthy ulcers and sores; as an injection into the bowels in diarrhœa and dysentery, and to correct the offensive character of many mucous discharges.

In many Chronic Diseases,
in which exist undue activity of the mucous membranes in some portion of the body, this remedy is of marked benefit as a *general tonic*. The following are some convenient forms for internal use:

℞ Fluid Hydrastis ½ to 1 fluid ounce, sherry wine sufficient to make one pint;
or ℞ Fluid Hydrastis ½ to 1 fluid ounce, syrup sufficient to make one pint;
or ℞ Fluid Hydrastis ½ to 1 Fluid ounces, Glycerin 2 fluid ounces, water sufficient to make one pint. Teaspoonful to a dessert-spoonful three or four times per day.

SUPPLIED BY ALL FIRST-CLASS CHEMISTS.

LONDON DEPOT: { THE WM. S. MERRELL CHEMICAL CO.,
No. 7, Jeffrey Square, St. Mary Axe, London, E.C.

PRICE CURRENT AND LITERATURE UPON APPLICATION.

Invalid Bovril,

like ordinary Bovril, contains the actual substance of the primest lean ox beef in the finest possible state of division, but in a more concentrated form. It is specially prepared for use in the sick room, and contains no seasoning. It is perfect beef tea plus the ALBUMIN and FIBRINE of Beef in the form best suited to the enfeebled powers of digestion and assimilation, thus providing the nourishment necessary to the renewal of strength and vitality.

Bovril Meat Juice, 2-oz., 1/9. Bovril Beef Jelly, -/9 & 1/4

Virol.

An unique preparation, combining Heat-producers (fat and oils) with Flesh-formers (iron-bearing proteids).

FOR CHILDREN, begin with an egg-spoonful three times a day.

"In children who are fed upon a deficient amount of fat the bony structures are imperfect and slow of growth. In a word, deficiency of fat in the food (of infants) is one of the chief factors in the production of rickets."—CHEADLE.

VIROL is a combination of Red Bone Marrow, highly diastasic Malt Extract, Eggs (with the lime of the shells), and Lemon Juice.

IT IS A VALUABLE HÆMATIC AS WELL AS A FAT FOOD.

THE LANCET says: "From our own analytical observations and experience we are led to regard Virol as of particular value and a complete food, because rich alike in all three classes of repairing material—the NITROGENOUS, HEAT PRODUCING, BONE FORMING—derived from animal, vegetable, and mineral sources. In appearance and consistency it is like honey, and to the taste it resembles excellent toffee."

The BRITISH MEDICAL JOURNAL says: "Free from the objectionable character of cod-liver oil, and possessing considerable nutritive value."

THE TASTE OF VIROL IS DELICIOUS.

Jars, 1/-, 3/-, and 4/6.

BOVRIL LIMITED, FOOD SPECIALISTS AND HOSPITAL PURVEYORS, LONDON,

Contractors to Her Majesty's and Foreign Governments.

CHAIRMAN: J LAWSON JOHNSTON.

VICE-CHAIRMAN: THE VISCOUNT DUNCANNON, C.B.